SOAP

SANITARY CHEMICALS

HANDED DOWN FOR 147 YEARS!

During those years we have never compromised with quality in the field of Aromatics and Essential Oils. Rest assured that we never will! Our competent, experienced compounding laboratories stand ready at any time to aid you in the solution of your perfuming problems. Our vast store of experienced knowledge is at your command at all times!

DODGE & OLCOTT COMPANY

180 VARICK STREET • NEW YORK 14, N. Y.

Plant and Laboratories: Bayonne, N. J.

BOSTON • PHILADELPHIA • CHICAGO • ST. LOUIS • LOS ANGELES

February 1945

For complete satisfaction

always..

1 *Specify..*

DIAMOND ALKALIES

58% Light Soda Ash . . . Diamond Soda Crystals . . . 76% Caustic Soda (Solid & Flake) . . . Liquid Caustic Soda.

STANDARD SILICATES

Silicate of Soda, Liquid . . . Silicate of Soda, Glass . . . Sodium Metasilicate . . . Silicated Alkalies.

2 *Anticipate . . .* —your needs and order your supplies as far as possible in advance of actual use to avoid production delays and disappointment.

ALKALI

DIAMOND ALKALI COMPANY

PITTSBURGH, PA., *and Everywhere*

DISINFECTANT P-19

HIGHER BACTERICIDAL ACTION THAN ORDINARY PINE OIL DISINFECTANTS!

The higher bactericidal action of Fuld P-19 makes it the ideal disinfectant for general sanitation use in maintenance work. P-19 has a phenol coefficient of 5 (FDA) against E. Typhi and 4 (FDA) against Staph. Aureus. Ordinary pine oil disinfectants do not kill the Staph. Aureus organism. Yet Fuld Disinfectant P-19 is lower in price! Not a substitute product . . . Disinfectant P-19 is a permanent member of the Fuld line of quality products!

Makes a Milky-White Emulsion Instantly . . .

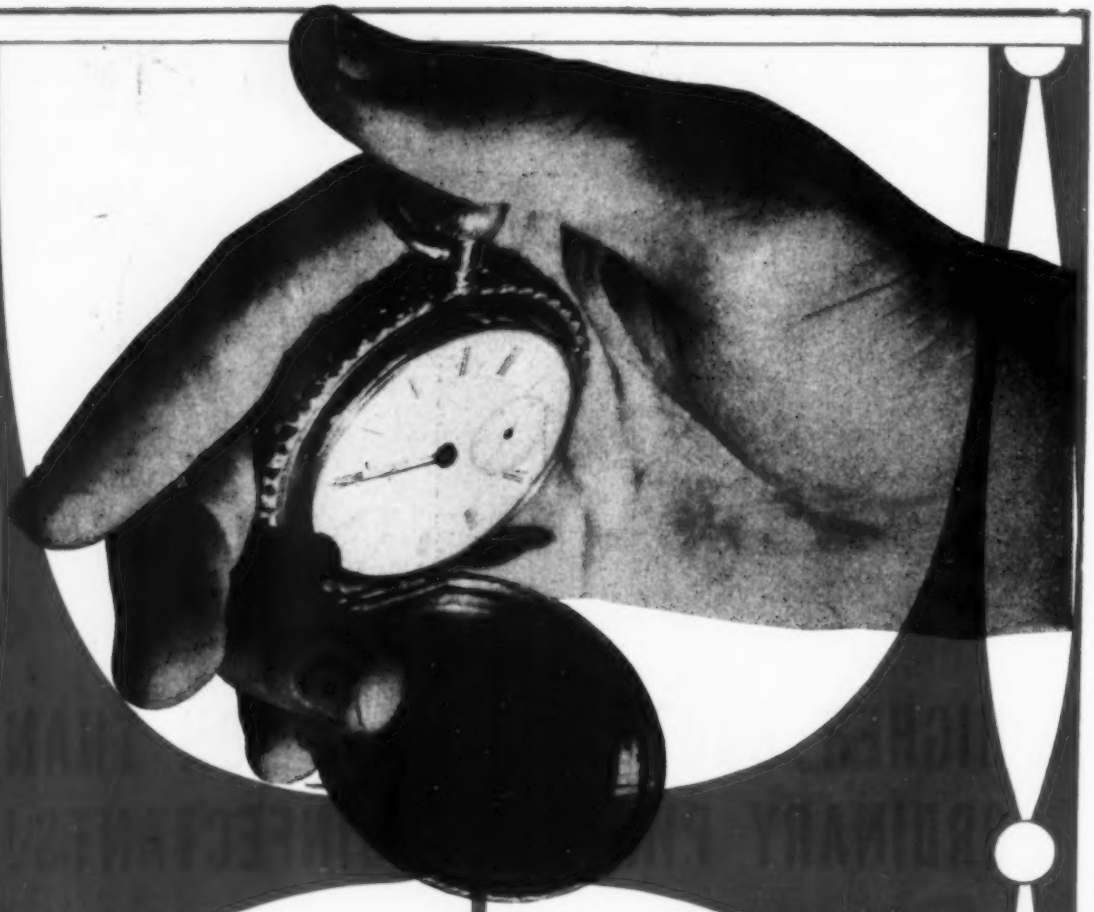
P-19 makes the familiar milky-white emulsion instantly when mixed with water. Pine odor. Produced by a new formulation that combines chlorinated phenol with soap and pine oil. Write for sample.

- **702 South Wolfe Street, Baltimore 31, Md.**
- **2444 East 8th Street, Los Angeles 21, Cal.**
- **New York Sales Office: 55 West 42nd Street**

Fuld Brothers

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

B & Z Library



IT IS TIME!

It is time to get in touch with your supplier. Raw materials are increasingly more difficult to obtain.

The more time you give your supplier to work on your problem, the better chance he has to solve it for you.

Products which are available to the perfumer at reasonable prices:

Oil of Balsam Fir American
Methyl Naphthyl Ketone Crystals
Phenyl Ethyl Alcohol
Veratraldehyde
Ionone A. B.
Ionone Methyl
Phenyl Acetaldehyde Dimethyl Acetal
Hydratropic Aldehyde
Floranol
Para Methyl Hydratropic Aldehyde
Cinnamic Alcohol
Cyclamal
Indol

Requests for samples on your firm's letterhead and further information will be promptly furnished

Aromatics Division

GENERAL DRUG COMPANY

125 Barclay St., New York 7, N. Y.

9. S. CLINTON ST., CHICAGO 6 1019 ELLIOTT ST., W., WINDSOR, ONT.

Volume XXI Number 2

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

FEB.
1945

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Published monthly by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET, NEW YORK 1, N. Y.

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Do your new workers know how to handle

CAUSTIC SODA?

To the trained chemist or seasoned workman the handling of Caustic Soda is a routine affair and the materials best suited for caustic soda handling are well known. Your veteran maintenance men, too, are undoubtedly familiar with the care required to prolong the life of the equipment used and to keep it in good order.

But if yours is like most plants today, you have recently added many new and inexperienced employees. A little more information about Caustic Soda, the precautions in handling, the materials and construction of containers and fittings, may be helpful in making them more careful and more efficient.

The Hooker Caustic Soda Booklet gives helpful information on this chemical and includes materials for equipment, precautions for handling, physical and chemical data and useful tables. It tells about the proper materials for tanks, tank connections, tank mountings, piping, pumps, valves and gaskets. It gives hints on storage as to container materials, locations and installation.

A section is included on handling and working with Caustic Soda—describing the types of shoes, clothing, hats and goggles that provide best protection and detailing other necessary precautions.

We shall be glad to send you copies of this booklet to pass on to your plant safety departments. In it they will find much material that they can use to promote their safety programs. Your supervisory and technical personnel will also find the information it contains of value to them in their work.

Our own technical staff is also always at your service in giving you whatever help they can in the use of Caustic Soda and the other Hooker chemicals. When writing for a copy of the Hooker Caustic Soda Booklet, ask also for the Hooker General Products Lists.

HOOKER ELECTROCHEMICAL COMPANY

Buffalo Ave. & Union St., Niagara Falls, New York
NEW YORK, N. Y. • TACOMA, WASH. • WILMINGTON, CALIF.

CAUSTIC SODA	MURIATIC ACID
MONOCHLORBENZENE	TRICHLORBENZENE
BENZOATE OF SODA	BENZOIC ACID
METHYL CYCLOHEXANOL	SULFUR DICHLORIDE

HOOKER CHEMICALS

Balsamol
In BALSAMOL, we have incorporated the freshness of all outdoors... the healthy odor of deep woods and mountain air + Possessing a truly balsamic and retentive odor, BALSAMOL will replace all the natural balsam and gum characters in your formulae—most effectively and without their inconveniences. ++ BALSAMOL is especially good as a base and fixative for floral types. When used in combination with smooth warm tones, it forms the background of many present-day popular perfumes.
$32.00 per pound. Write us for further details and suggestions.
Firmenich & Co.
135 FIFTH AVENUE, NEW YORK, N. Y.
CHICAGO OFFICE · 612 NORTH MICHIGAN AVENUE

A Constant Companion

SHOULD BE ATTRACTIVE

Three hundred and sixty-five days a year—and many times a day, we use soap. Women—who buy most of it—are always on the lookout for more attractively perfumed soap than the one they're using. Our clever perfume-chemists have created several new and delightful soap perfumes—the kind women enthuse over. We'd like to show them to you.

VAN AMERINGEN-HAEBLER INC.

315 Fourth Avenue

New York 10, N. Y.

Sell Snoap

The BETTER Synthetic

NO·SOAP CLEANING POWDER

SNOAP FOR FLOORS
Cleans tile, terrazzo, marble, linoleum and composition floors. Rinses freely.
WALLS . . . SNOAP cleans 'em without elbow grease. No calcium residue to remove. SNOAP forms no curds.
AUTOMOBILES . . . they're washing their cars more easily these days — with a fistful of SNOAP in a pail of water, and no soapy film to wipe off.
MAKES MIRRORS SHINE. Does a brilliant job on plate-glass too.
SNOAP — for washing dishes by hand . . . water soft as dew. No cloudy film. Glasses sparkle like crystal — without wiping!
WINDOW WASHERS' DELIGHT. Swish on SNOAP. Rub on cloth . . . next window please!
ANY ICE BOXES TO CLEAN? SNOAP in cold water pretties them up for the inspector.
CAN SUCH THINGS BE! Drop a cupful in a pail. Turn on the water — hot or cold — hard or soft . . . YOU NEVER SAW SUCH RICH CREAMY SUDS.

A SUDSY ALL-PURPOSE
Free Rinsing
SCUMLESS CLEANER

New Cleaning Agent
Chases slippery soap film

New Wetting Agent
Cuts grease—wets out dirt

Snoap Dissolves
with a super-abundance of suds ...the moment it strikes water

Easy on Hands
...No harmful solvents

SANITARY CHEMICALS
Hysan

SELLING EXCLUSIVELY TO JOBBERS AND DISTRIBUTORS

Hysan Products Company
58 E. Cullerton St.
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Norda

Synthetic floral oils . . .

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

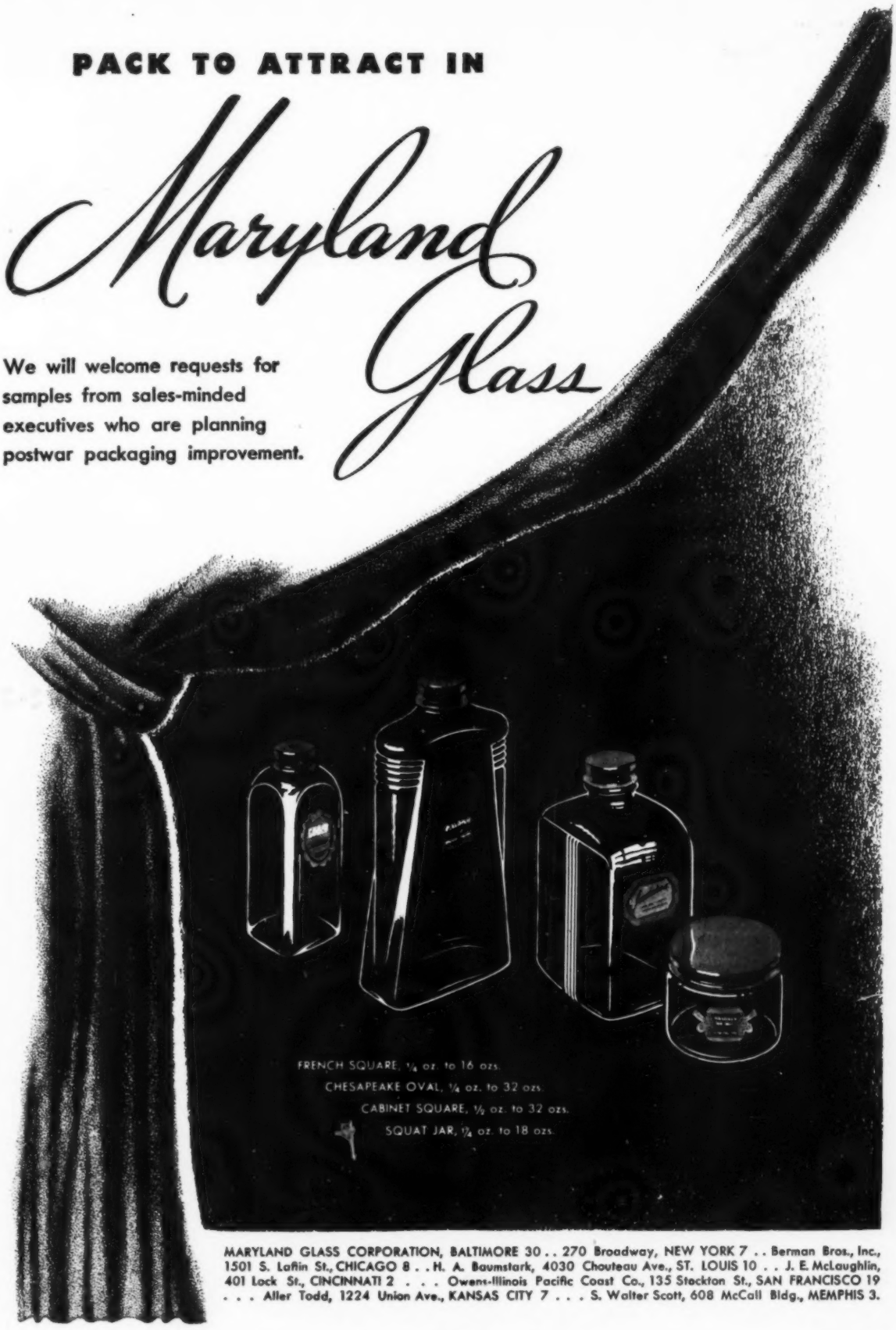
New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

PACK TO ATTRACT IN

Maryland Glass

We will welcome requests for samples from sales-minded executives who are planning postwar packaging improvement.



FRENCH SQUARE, ¼ oz. to 16 ozs.
CHESAPEAKE OVAL, ¼ oz. to 32 ozs.
CABINET SQUARE, ½ oz. to 32 ozs.
SQUAT JAR, ¼ oz. to 18 ozs.

MARYLAND GLASS CORPORATION, BALTIMORE 30 . . 270 Broadway, NEW YORK 7 . . Berman Bros., Inc., 1501 S. Laflin St., CHICAGO 8 . . H. A. Baumstark, 4030 Chouteau Ave., ST. LOUIS 10 . . J. E. McLaughlin, 401 Lock St., CINCINNATI 2 . . . Owens-Illinois Pacific Coast Co., 135 Stockton St., SAN FRANCISCO 19 . . . Aller Todd, 1224 Union Ave., KANSAS CITY 7 . . . S. Walter Scott, 608 McCall Bldg., MEMPHIS 3.

TO HELP COMPLETE

YOUR POSTWAR PICTURE...

A PLAN BY *Givaudan*

Fitting the pieces together of tomorrow's new product ideas, calls for overcoming your aromatic and perfuming problems today.

To help you proceed "according to plan," Givaudan, through the assistance of its experienced technical staff and broad research facilities, can help you work out the practical ways and means of achieving your new product objectives.

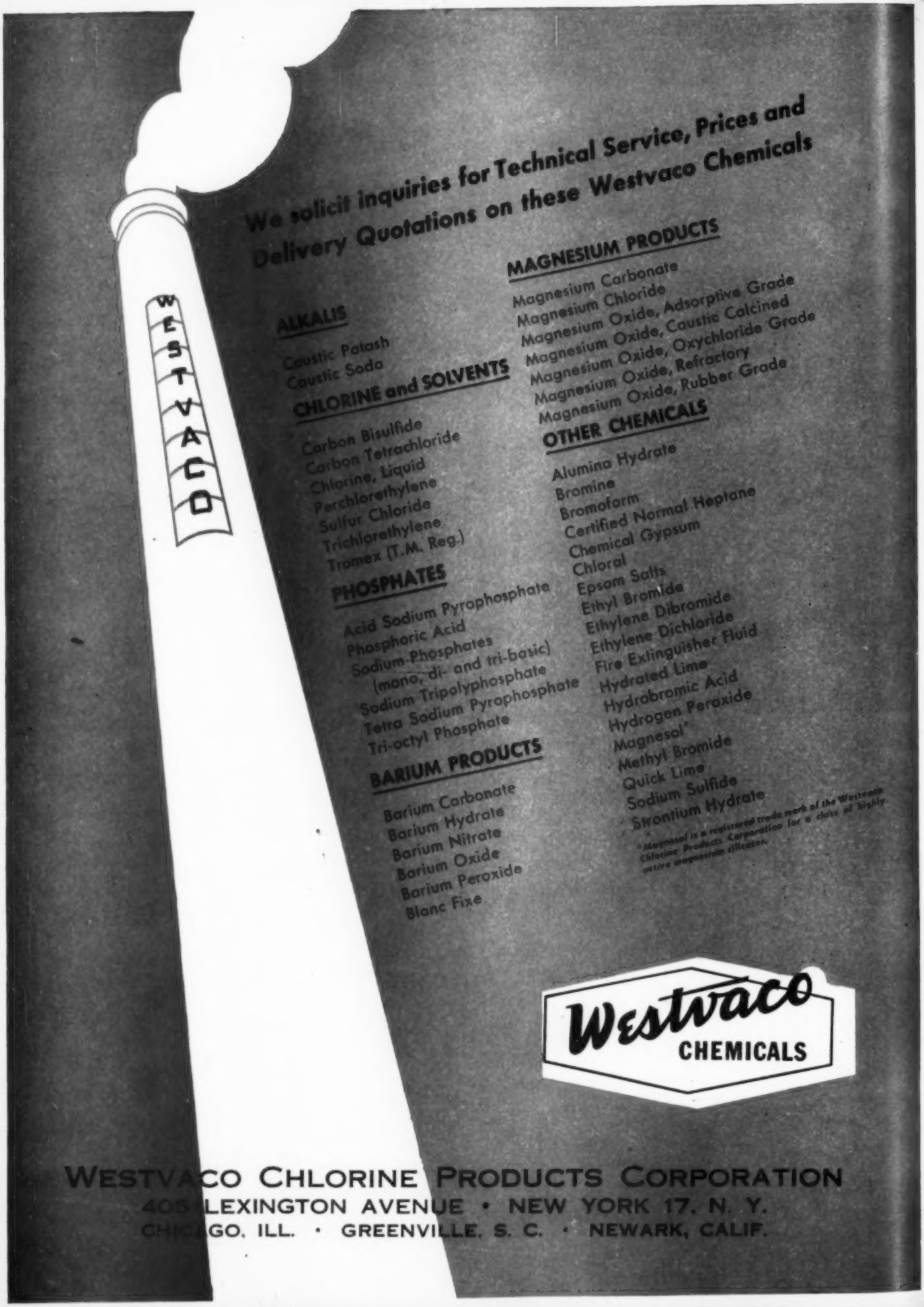
Then, as the many raw materials now restricted become more abundant, you will be prepared to proceed confidently with your production of new formulations.

Both our skill and experience are ready to serve you . . . NOW. We invite you to consult with us.

"BUY WISELY . . . BUY GIVAUDAN"

Givaudan-Delawanna, Inc.

330 WEST 42nd STREET • NEW YORK 18, N. Y.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We solicit inquiries for Technical Service, Prices and Delivery Quotations on these Westvaco Chemicals
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Caustic Potash
Caustic Soda
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Carbon Bisulfide
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Chlorine, Liquid
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Sulfur Chloride
Trichlorethylene
Tromex (T.M. Reg.)
PHOSPHATES
Acid Sodium Pyrophosphate
Phosphoric Acid
Sodium Phosphates (mono-, di- and tri-basic)
Sodium Tripolyphosphate
Tetra Sodium Pyrophosphate
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BARIUM PRODUCTS
Barium Carbonate
Barium Hydrate
Barium Nitrate
Barium Oxide
Barium Peroxide
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Magnesium Oxide, Caustic Calcined
Magnesium Oxide, Oxychloride Grade
Magnesium Oxide, Refractory
Magnesium Oxide, Rubber Grade
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Bromine
Bromoform
Certified Normal Heptane
Chemical Gypsum
Chloral
Epsom Salts
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Ethylene Dibromide
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Hydrated Lime
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*Magnesol is a registered trade mark of the Westvaco Chlorine Products Corporation for a class of highly active magnesium silicates.
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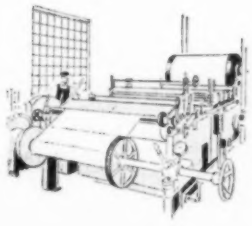
405 LEXINGTON AVENUE • NEW YORK 17, N. Y.
CHICAGO, ILL. • GREENVILLE, S. C. • NEWARK, CALIF.

A New Cellulose Derivative

for



TEXTILE SIZES

OIL-RESISTANT PACKAGING

PAPER TOWELING

EMULSIONS

"CELLOSIZE" HYDROXYETHYL CELLULOSE WS

. . . an aqueous solution containing 10 per cent hydroxyethyl cellulose. On drying, it produces a clear, transparent film, of greater strength and clarity than is obtained from commercial methyl cellulose solutions. This film is soluble in hot or cold water, but is completely resistant to the liquid and vapor phases of lubricating oil, ethylene dichloride, and other hydrophobic solvents.

Hydroxyethyl cellulose is of interest for textile finishing, paper sizing, and in shoe and leather dressings where thickening agents such as starches, gums, gelatins, and soluble resins are used. In dyestuff pastes, it tends to increase the solubility of the dyestuff in the printing vehicle. Unlike starch and gelatin sizes it will not mold, and its films do not build up an electrostatic charge.

Combined with glyoxal, hydroxyethyl cellulose becomes water-resistant. Such a film, being insoluble in oils, greases, and organic solvents, should be useful in vapor- and liquid-proof packages. When paper toweling is impregnated with small amounts of hydroxyethyl cellulose and glyoxal its wet strength is greatly increased.

"Cellosize" Hydroxyethyl Cellulose WS is a good protective colloid for dispersion of oil, fats, waxes, and pigments, and should be useful in emulsion polymerization, emulsion varnishes, and water paints. It has adhesive properties.

A 10 per cent aqueous solution of "Cellosize" Hydroxyethyl Cellulose WS can be supplied in limited commercial quantities. Also available are research quantities in the form of a dry powder.

For further information write for our technical data sheet.

SYNTHETIC ORGANIC CHEMICALS

Carbide and Carbon Chemicals Corporation

Unit of Union Carbide and Carbon Corporation

UCC

30 East 42nd Street, New York 17, N. Y.

"Cellosize" is a registered trade-mark of Carbide and Carbon Chemicals Corporation.

KRANICH SOAPS

CONCENTRATED

LIQUID SOAP
SHAMPOO

☆ ☆ ☆ ☆ ☆

POWDERED SOAPS

Pure Coconut
U.S.P. Castile

☆ ☆ ☆ ☆ ☆

POTASH SOAPS

Soft Potash 40%
U.S.P. XII Green

☆ ☆ ☆ ☆ ☆

Kranich Soap Company, Inc.

55 Richards Street **Brooklyn 31, N. Y.**

KRANICH SOAPS

ONE OF 19 DOW CHEMICALS USED BY THE SOAP INDUSTRY

Answering

a sticky problem

in Adhesives

Solved by Methocel—a sticky problem in the leather industry! And the solution indicates the versatility of Methocel—its ability to aid industry in many ways and in many fields.

Tanneries have long sought some means of drying leather without any shrinkage, distortion or rupturing. Ordinary adhesives failed on this ticklish job.

Methocel did the trick. Now tanneries use it as an adhesive to fasten leathers to drying frames. It holds the leather flexibly, prevents damage, and permits easy removal. Tanners get more and softer leather.

Of course, Methocel is more than an adhesive. It is a water-soluble cellulose ether of exceptional purity and uniformity, with wide uses for dispersing, thickening, emulsifying, sizing, and coating. Perhaps it holds the key to one of your production problems. Write today for complete information.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

Methocel

Water Soluble Dow Methylcellulose

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

MISSOURI PACIFIC HOSPITAL ASSOCIATION

St. Louis, Missouri,
August 29, 1944.

Mr. J. P. Dobyns,
Manager Research Department,
Hospital Management,
100 East Ohio Street,
Chicago 11, Illinois.

Dear Mr. Dobyns:

Your letter of August 25th together with reprint of a page from Hospital Management showing that many of the leading hospitals regularly route copies of your magazine to their department heads:

This, of course, has been the practice in our institution for many years and I am sure that our department heads as well as myself look forward to each issue.

Yours very truly,

H. J. Mohler
President.

HJM:CJ

"Our Department Heads . . . Look Forward to every Issue"

Commenting that it has been the practice in his institution for many years to pass copies of HOSPITAL MANAGEMENT on to department heads, Mr. H. J. Mohler, president of the Missouri Pacific Hospital Association, adds, ". . . and I am sure that our department heads as well as myself look forward to each issue."

What this policy means in terms of circulation penetration is clear when it applies to an organization which operates a 300-bed hospital in Saint Louis, a 125-bed hospital in Little Rock, Arkansas, hospital facilities at Kansas City, Missouri, and at 53 other points on the railway's system. The staff of the association consists of 689 physicians, surgeons and specialists.

The magnitude of these operations illustrates again the extremely complex nature of hospital operation, and why HOSPITAL MANAGEMENT, which is passed on to department heads by 80% of its subscribers, is able to provide real impetus to advertising campaigns in its columns.

Since hospitals are necessarily staffed by many specialists whose advice is sought by the managing head of the institution, the importance of reaching them, as well as the one who can sign the order is obvious. This is a job that HOSPITAL MANAGEMENT does superlatively well. Get complete details, and be sure to include HOSPITAL MANAGEMENT in your 1945 plans.

Hospital Management

The Only Hospital Publication which is a member of both the ABC and ABP.

100 E. OHIO STREET, CHICAGO 11

How many of these folding carton questions should you be asking, right now? . . .

Better assume that your competitors are asking those questions. Which also means *you'll* not only want to ask them fast . . . but make sure you get *answers* that will make *your* packages the ones with the biggest *plus* after the war.

Gardner-Richardson experience, ingenuity and know-how have produced many entirely new developments in the folding carton field in recent years. Some of them may be the answers you're looking for: new dispensing cartons, new bulk display cartons, cartons with unique click-tops, pouring spouts, automatic lock ends. Today, Gardner-Richardson production is completely sold up. But our creative and technical staffs are ready to tackle the problem of bringing your folding cartons "up to the future." Write, today. No obligation, of course.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

Include the Dairy Industries in Your Selling Plans

★ Insecticides
★ Germicides
★ Cleaners
★ Detergents

The Dairy Industries are one of the nation's largest users of insecticides, germicides, cleaners, and detergents.

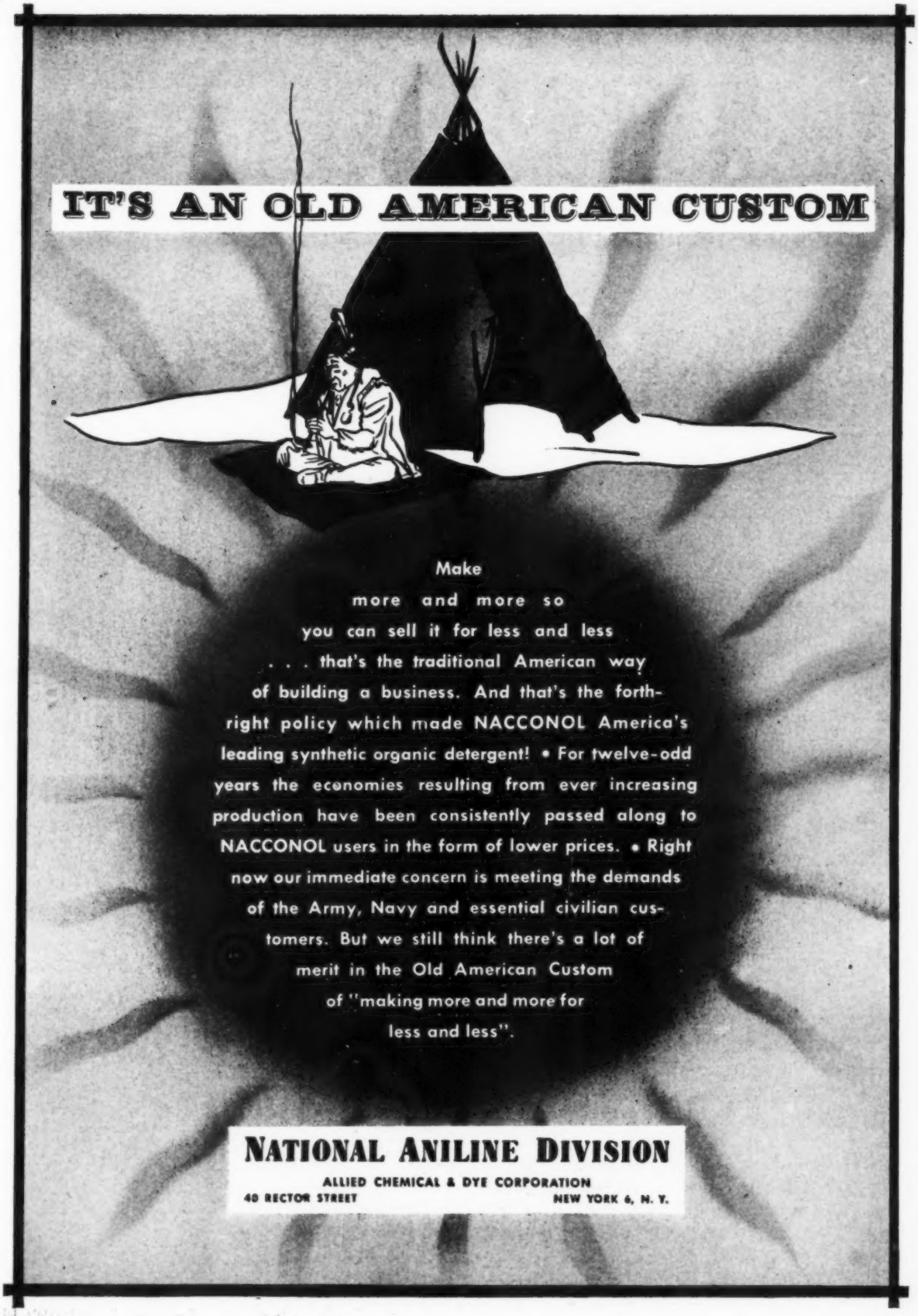
Here is a tremendous national market where clean sterile equipment is as important as fresh pure milk and where cleaning is virtually a continuous process.

You can reach and sell this market effectively and at low cost through the Dairy Industries Unit — the three leading publications in the dairy industries — The Ice Cream REVIEW, The Milk Dealer, and National Butter and Cheese Journal.

Write for details and sales data about building lasting and profitable repeat volume for your products among the thousands of ice cream plants, milk dealers, creameries, condenseries, and cheese factories of America.

THE OLSEN PUBLISHING COMPANY
505 W. Cherry St. Milwaukee 12, Wis.

The ICE CREAM REVIEW ABC | the MILK DEALER ABC | National Butter and Cheese Journal ABC


IT'S AN OLD AMERICAN CUSTOM
Make
more and more so
you can sell it for less and less
. . . that's the traditional American way
of building a business. And that's the forth-
right policy which made NACCONOL America's
leading synthetic organic detergent! • For twelve-odd
years the economies resulting from ever increasing
production have been consistently passed along to
NACCONOL users in the form of lower prices. • Right
now our immediate concern is meeting the demands
of the Army, Navy and essential civilian cus-
tomers. But we still think there's a lot of
merit in the Old American Custom
of "making more and more for
less and less".
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET
NEW YORK 6, N. Y.

Flirting with a finer fragrance?

depend on du pont

A good idea—if you let Du Pont perfumers and chemists work with you. For we have complete facilities at our disposal, years of sound research behind us. Whatever the fragrance, whatever the product, you'll want to see us early. You can always depend on Du Pont.

E. I. DU PONT DE NEMOURS & CO. (INC.)
ORGANIC CHEMICALS DEPT., AROMATICS SECTION, WILMINGTON, DEL.

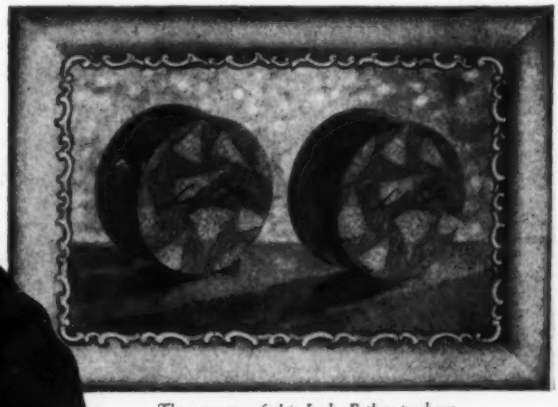
Leslie Brooks featured in Columbia's technicolor production *"Tonight and Every Night"*

Beauty

DOES IT . . . Every Time

ON THE SCREEN the alluring beauty of Leslie Brooks draws audiences, increases "box office."

OVER THE COUNTER the eye-stopping beauty of an artfully designed package draws buyers, increases sales.



The BEAUTY *of this Lady Esther package helps make sales* —AT THE POINT OF SALE

THE 5 ESSENTIALS OF A SELLING PACKAGE

1 It must be practical, production-planned, economical to manufacture, easy to fill or pack.

2 It must fully protect and conveniently dispense the product.

3 It must be easy to handle, stack, display.

4 It must proclaim the quality and identity of your product.

5 It must be notably "good looking," memorable, ATTRACTIVE!

SEVENTY-NINE years of packaging experience has taught Ritchie that—with all the complex, practical factors involved in the production of a package—it is always possible *and extremely profitable to add beauty!*

WAY TO A BETTER SELLING PACKAGE

The Ritchie way integrates art and artisanship—to give you a better selling package at a low unit cost. A package that quickly, unmistakably identifies, fully protects and conveniently dispenses your product. A practical, production-planned package—easy to fill or pack, easy to handle, to stack and display—but *above all* designed for eye-appeal, for quality-impression, for *beauty that sells!*

W. C. *Ritchie* and COMPANY

8880 Baltimore Avenue, Chicago 17

SET-UP PAPER BOXES • FIBRE CANS • TRANSPARENT PACKAGES

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS

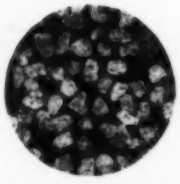
Santochlor

CONTROLS MOTHS AND LARVAE

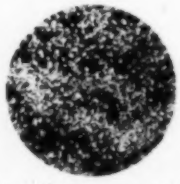
Santochlor, Monsanto's para-Dichlorobenzene, is widely used for the control of moths and larvae. High in purity and uniform in quality, the free flowing white crystals vaporize *completely*. Hence, the chemical is effective.

Santochlor also is valued as a deodorant.

Right now, Santochlor is scarce, but we are doing our best to supply demands for the product. We shall be pleased to send information and samples if you are interested. The coupon is for your convenience. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Mo. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.



No. 2 (Large crystals). For shaker top cans.



No. 34 (Medium crystals). A combination of two uniformly sized crystals for shaker top cans and for compressing into cakes.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY,
Dept. M-1, Organic Chemicals Division
1700 S. Second St., St. Louis 4, Mo.

Please send information and a sample of Monsanto Santochlor.

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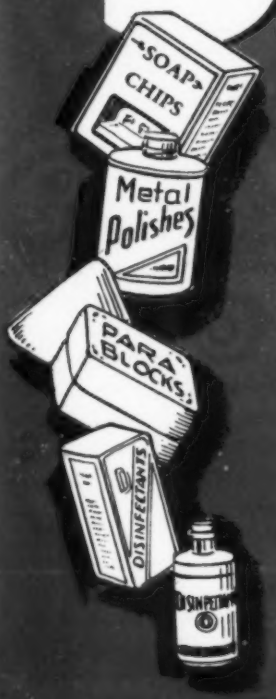

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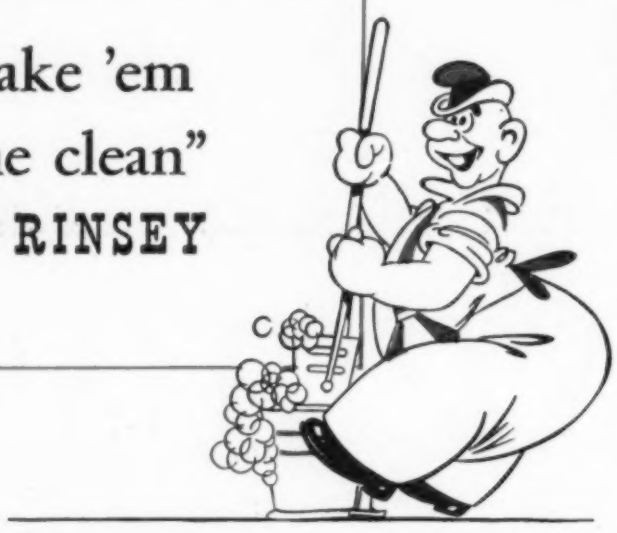

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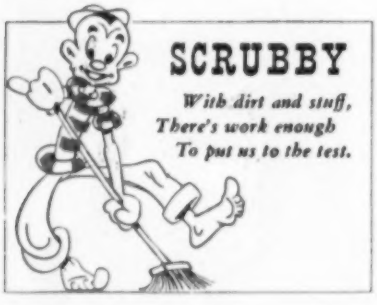

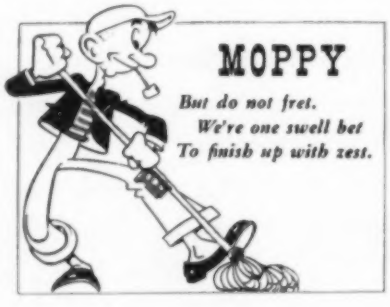

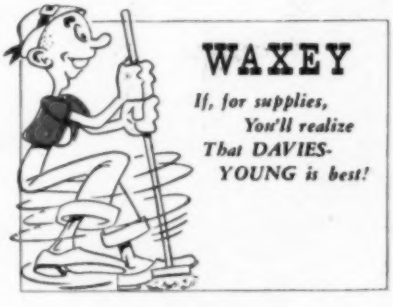

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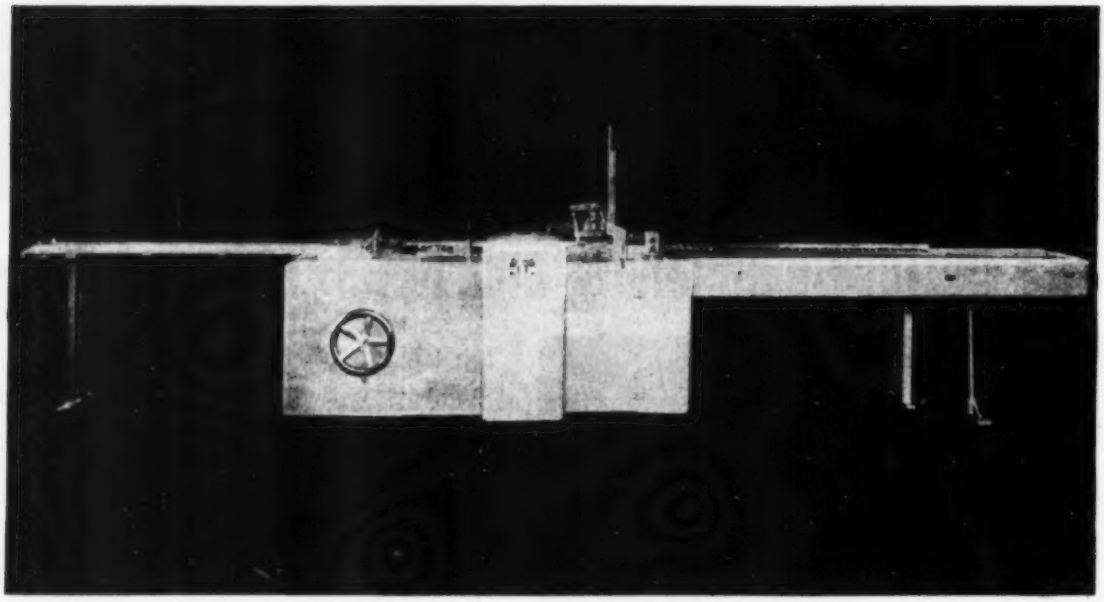

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AS THE EDITOR SEES IT

STRONG pleas by government agencies urging soap manufacturers to accept larger orders for soap from the government have been noted on several occasions during recent months. At the same time, soap manufacture has not been classified as "essential" although glycerine manufacture has been classified as such. Labor shortages in some soap plants, particularly those located in critical labor areas, have made it well nigh impossible for most soapers to comply with the urgent requests of the government for more soap. And there has been little or nothing that such soapers could do about it. They simply could not hold their men in the face of competition from defense industries.

In the recent reclassification of its list of essential activities into "critical" and "essential," the War Manpower Commission again classes glycerine as critical, but does not include soap in either of the foregoing categories. Oils, fats, and miscellaneous chemical products, and all scientific and research personnel are in the critical classification,—but not soap. At least, it is not mentioned by name. Possibly WMC means to include it under "miscellaneous chemical products" or as a material essential to maintain health services. But who knows?

Now all this brings up a suggestion to those government agencies which actually have been pleading with soap makers to take on larger orders for the government. If a larger supply of soap for government uses, particularly in the devastated areas of Europe, is needed as badly as these government men say it is, let them arrange with WMC to specify soap making *by name* as a critical activity. This might help soapers, particularly many smaller plants, to supply at least a share of the larger government soap needs, and to do this with a minimum of disturbance of necessary civilian requirements. Or rather, we should add, a reclassification as "critical" might help soapers to supply more soap to government departments, if—and the "if" is very, very large—if raw material shortages over the next six months do not completely upset the soap production apple-cart. In that case, all we can say is that our government friends should have urged that soap be classified as "essential" a year ago and that it now may be too late.

REVELATIONS last month in the United States Senate by Senator Mead of New York regarding labor conditions at the Norfolk Navy Yard were reported in the daily press to have "burst upon the Senate like a bombshell." Tales of manpower waste, loafing, and work slowdowns were described to the Senate as though these conditions were new and unusual, as though they were the exception in the case of the Norfolk Navy Yard. Actually, such conditions are widespread and are confined not alone to government-owned plants or to defense plants generally. Civilian industry likewise suffers from the same conditions, but perhaps to a less degree. They grow principally from the over-all labor shortage which in turn has engendered arrogance and greed that not only condone a flagrant waste of manpower, but actually demand such waste.

Slowdowns and loafing in civilian industry are a direct reflection of the same conditions in defense plants. They explain to a considerable degree why a per-hour wage

rate has become meaningless when interpreted in terms of production costs or in terms of OPA ceiling prices. With a tough war on our hands and with millions of our best workers in the armed forces, one would hope that the efficiency of labor generally would be at its peak. But every indication points to the exact opposite. The efficiency of American labor is probably at its lowest ebb in all our history. And until the war is over, there is little that can or will be done about it. When the economic history of this war is written some years hence, however, we wonder if these facts will be portrayed in all their stinking rottenness.

THAT the fatty acid producers of America do not intend to permit their war-won expansion in business to be taken away from them after the war by low-cost whole oils and fats is apparent from their long-term plans. During the war, they have given to soapers, both large and small, as well as to other industries, a type of standardized raw material which was unknown a few years back. Their practical applications of a wide new development in fat chemistry over recent years has made possible filling many important gaps in the supply of natural oils and fats. In a sense, the fatty acid industry stands today about where the American dyestuffs industry stood some twenty-five years ago during the first world war. And like the dyestuffs industry, it may eventually make us wholly independent of foreign sources, adapting domestic oils and fats to all our needs whatever they may be. Progress in the chemistry of fatty acids has been wide. In the post-war era it is likely to be wider.

LARGE newspaper advertisements as well as window and counter displays chiefly of toilet soaps by leading department stores have come in for increasing criticism from government departments and likewise from some persons associated with the soap industry. The criticism is based on the thought that this is no time to encourage the sale of any kind of soap, either toilet or laundry, that soap supplies are going to be reduced and should be conserved.

This view of the situation is not accepted by the merchandising people. Neither are all soapers in accord with it. The dissenters maintain that there is no more certain way to start a run on soap supplies and to encourage hoarding than by giving the appearance of scarcity. They hold that advertisements and soap displays create the impression of still plentiful supplies and that there is no need for Mrs. Housewife to rush in and stock up. If soap were scarce or going to be scarce, would department stores advertise it? Wouldn't they hide it behind the counters and dole it out like cigarettes?

ALTHOUGH discussion of post-war plans has been considerably lessened since the turn of the year, there is reason to believe that potential developments in the field of soap and detergent products manufactured by spray processes are large. In anticipation of the expiration of the Lamonte Patents, plans for expansion have been made on a rather wide front. One of the Lamonte Patents expired early last year, the other just a month or two ago.

That the necessary equipment for an expansion in the production of spray soaps and detergents must wait until after the war is quite evident. In fact, the realization that the war is not yet won and that we have been quite definitely misled as to the proportions of the job yet to be accomplished makes this far more evident than it was two months ago. Although new spray soap equipment may seem to be far off in the post-war future, there is no doubt that when these plans eventually arrive at development, the effects on competition in the markets for soap products are likely to be far reaching.

GLYCERINE OUTLOOK

BY

C. W. Lenth

IN A previous paper (1) an attempt was made to foresee the outlook for soap after the war. The outlook for glycerine is, of course, dependent on the soap outlook and the consumption of both soap and glycerine is related to the level of industrial activity. However of the two glycerine consumption parallels industrial activity more closely and to some extent anticipates it, so that it has been suggested as a barometer for industrial activity. Since there seems to be fairly general agreement that following a short period of reconversion, a high level of industrial activity will obtain for several years after the war, the production and consumption of soap is likely to be high and the production and consumption of glycerine will likewise be high.

Where and how will tremendous American glycerine production find a market in the post-war years? Will exports provide a permanent answer, or must new uses solve the problem of disposal of the soap maker's by product? What of glycerine substitutes? Some of the answers to these and other problems make this survey by the former head of the soap and glycerine unit of WFA of immediate concern to every soap maker.

Production of Glycerine

IN THE paper on soap (1) it was indicated that the rate of consumption of soap fats immediately following the war would be in the neighborhood of 2 billion pounds per year. It is likely that with a high level of industrial activity this consumption of soap fat will increase partly as a result of high consumer incomes and also because of the trend in recent years to the manufacture of soap of high fat content.

Glycerine is not only a by-product of soap manufacture, but also a by-product of fatty acid manufacture and the production of fatty acids has increased substantially since pre-war years. There are no accurate data on the quantities of fat split in pre-war years, but an estimate can be made on the basis of the production of red oil and stearic acid. On the basis of these production figures it is probable that the fat consumed in the manufacture of fatty acids was in the neighborhood of 100 to 125 million pounds per year in the years immediately preceding the war. Data are available on the fat consumption during the last half of 1942 to date and they show that there has been a steady increase from a rate of approximately 160 million pounds per year in 1942 to 300 million pounds per year in 1944. There have been so many new developments in the fatty acids industry, particularly in the direction of the manufacture of specialty fatty acids, that members of the industry believe that the present rate of approximately 300 million pounds of primary fats per year is likely to continue. Therefore, it is important to include these fats in estimating the future production of glycerine.

It is possible to arrive at some guess as to the production of glycerine in 1945 and ensuing years. It is probable that the primary fats consumption for soap in 1945 will be in the neighborhood of 2 billion pounds and 300 million pounds split into fatty acids, with the result that between 195 and 200 million pounds of glycerine are likely to be produced in 1945.* This relatively high level is likely to decrease in 1946 as the demand for soap for European relief is reduced, and consequently it is estimated that with 1.8 billion pounds of soap fats and 300 million pounds of fats split, glycerine production will approximate 180 million pounds.

In the years following, some members of the soap industry believe that the fats consumed for soap making may rise to as much as 2.4 billion pounds, which together with the fats used for making fatty acids could result in a production of about 230 million pounds of glycerine. This high level of production of glycerine is, of course, predicated on the assumption that there is a sufficient demand to maintain values which warrant its recovery.

Consumption of Glycerine

Consumption of glycerine in some 20 different classes of use has been reported in a previous paper (2) and the data there included serve as a basis on which estimates may be made with respect to future consumption. It is probably worthwhile to take up each of these classes of use separately since it is not possible to generalize on all of the uses.

Pharmaceuticals

The consumption of glycerine in pharmaceuticals in 1940 was approximately 8.9 million pounds and 10.9 million pounds in 1941. It is doubtful that this level will be substantially increased in the post war years particularly since there have been some inroads by substitutes in

* This compares with an estimated production for 1944 of 204 million pounds.

this industry and it is likely that some of these substitutes will enjoy a permanent market in this field. Consequently it is probably safe to assume that approximately 10 million pounds will be consumed by the pharmaceutical industry.

Explosives

Consumption of glycerine in explosives was 22.6 million pounds in 1940 and 30.6 million pounds in 1941. These figures, of course, include the nitroglycerine consumed in the manufacture of smokeless powder and other military explosives. In the post war years this consumption will be practically non-existent, but due to the requirements for reconstruction, road building and gold mining it is likely that the production of dynamite will reach a high level with the result that as much as 30 million pounds of glycerine may be consumed in this field.

Resins

The consumption of glycerine in the manufacture of synthetic resins in 1940 was 21.6 million pounds and 29.7 million pounds in 1941. The principal use for glycerine in this field is the manufacture of alkyd resins prepared from glycerine, phthalic anhydride and vegetable oils. The production of alkyd resins showed a steady growth in the prewar years and through 1943 when a production of 154 million pounds was reached. This quantity of alkyd resin required about 35 million pounds of glycerine. However, early in 1944 new military requirements for phthalic anhydride for insect repellents and plasticizers for explosives required the curtailment of the quantity available for alkyd resins so that probably not much more than 20 million pounds of glycerine could be used. The production capacity for phthalic anhydride is being increased and is expected to reach 168 million pounds early in 1945 from a level of 113 million pounds in 1943 (3). However, it is doubtful that much of this increased production of phthalic anhydride will be available for the manufacture of alkyd resins. So long as the requirements continue for phthalic anhydride for military purposes for other than protective coatings, no substantial increase in the amount allocable to the resin industry can be made. It is not likely that any substantial decrease in these requirements will occur at the end of the European War and they will undoubtedly continue for the duration of the Japanese War.

Another bottleneck in the production of alkyd resins and the consumption of glycerine in this industry is the restriction on the use of oils in the manufacture of protective coatings under WFO-42a. It is likely that restrictions on the use of fats and oils will continue at least until the Philippines are liberated and possibly until the end of the Japanese War. Consequently until that time it is unlikely that any great expansion in the manufacture of alkyd resins will occur. However, regardless of the restriction on oils, as soon as the phthalic anhydride becomes available, it is probable that the protective coatings industry will substantially increase its present use of glycerine to perhaps 35 million pounds per year. This level may rise when oil restrictions are lifted since the alkyd resins are still the preferred bases for the protective coatings used in the manufacture of automobiles, washing machines, refrigerators, etc.

Ester Gum

The consumption of glycerine in the manufacture of ester gum was 6.1 million pounds in 1940 and 10.5 million pounds in 1941. This consumption has probably increased considerably during 1944 due to the shortage of alkyd resins. However, it is likely that as soon as alkyd resins again become available the consumption of glycerine in ester gum will drop to perhaps 10 million pounds per year.

Gaskets and Cork Products

The use of glycerine in mechanical gaskets and cork products has increased during the war years from 6 million pounds in 1940, 8 million pounds in 1941 to 8.6 million pounds in 1942. Many of the uses are new and it is likely that some of this gain will be retained. Consequently it is estimated that approximately 8 million pounds will be consumed in these industries annually in the post-war period.

Rubber Processing

The consumption of glycerine in rubber processing has been relatively constant ranging from 1.4 million pounds in 1940, 1.8 million pounds in 1941 to 1.2 million pounds in 1942. There have been no substantial increases in the use of glycerine in this field and it is likely that the post war use of glycerine will average in the neighborhood of 1.5 million pounds.

Cellulose Films and Meat Casings

The use of glycerine in cellophane and sausage casings was 18.5 million pounds in 1940 and 19 million pounds in 1941. While the production of these products is likely to increase in post war years, there has been a tendency to employ some of the glycerine substitutes in some of these products designed for specific purposes. Consequently it is doubtful that the consumption of glycerine will materially exceed 19 million pounds in the immediate post war years.

Glassine, Grease-proof and Vegetable Parchment Papers

The consumption of glycerine in the production of glassine, grease-proof and vegetable parchment papers was 1.6 million pounds in 1940 and 2 million pounds in 1941. There has been some increase in the production capacity for these products as well as new developments in these fields and consequently it is likely that approximately 2 million pounds of glycerine will be consumed in these fields.

Textile Processing

The consumption of glycerine in textile processing was 2.3 million pounds in 1940 and 2.8 million pounds in 1941. The consumption is likely to level off at about 2 million pounds in the post war years.

Printers' Rollers and Supplies

The consumption of glycerine in printers' rollers has been comparatively constant at about 2.5 million pounds per year, but the use of glycerine in printing supplies including hectograph composition has increased with the result that the total has increased from 4.3 million pounds in 1940, 5 million pounds in 1941 to 5.2 million pounds in 1942. Some of the increase has been due to war re-

quirements and since some of the glycerine substitutes have found use in these fields, it is probable that the consumption will level off in the neighborhood of 5 million pounds.

Leather Processing

The use of glycerine in the processing of leather has been small, ranging between 0.4 to 0.5 milion pounds during the years 1940-1942. It is possible that this use may be increased some as a result of new developments, but at present such possibilities are so intangible that it is not safe to estimate any higher consumption than approximately 0.4 million pounds.

Adhesives

The use of glycerine in adhesive manufacture has also been relatively static. In 1940, 2.5 million pounds were used, in 1941, 2.9 million pounds, and in 1942, 2.3 million pounds. While the production of adhesives has probably increased, the use of glycerine substitutes has apparently absorbed most of this increase, with the result that the use of glycerine has not increased proportionately to the production of adhesives. This condition is likely to continue and therefore a post war use of approximately 2.5 million pounds of glycerine is indicated.

Paper Products

Paper products other than glassine and greaseproof papers required 1.1 million pounds of glycerine in 1940, 1.5 million pounds in 1941 and 1.5 million pounds in 1942. There have been many new developments in this field and it is possible that this consumption will be increased. However, at this time it is probably not safe to estimate more than about 1.5 million pounds for post war consumption.

Beverages, Flavors, Candy and Gum

The use of glycerine in beverages, flavors, candy and gum was 2 million pounds in 1940 and 2.4 million pounds in 1941. There has been a substantial increase in the production of these products during the war and while many of the new products probably do not contain glycerine because their formulas were developed at a time when glycerine was not available, nevertheless there is likely to be some increase in the use of glycerine in post war years in these fields. However, a conservative estimate of 2 million pounds is made at this time.

Margarine, Shortening and Other Edible Products

The consumption of glycerine in the manufacture of margarine, shortening and other edible products was 3.3 million pounds in 1940 and 4.1 million pounds in 1941. The consumption of glycerine in this field has probably increased with the removal of the restrictions on the use of glycerine and with the increased production of margarine and shortening. How much of this increase can be retained is open to question particularly in the manufacture of margarine since the consumption of margarine is inversely proportional to the consumption of butter. However, it is likely that the consumption of margarine will continue at a higher level than pre-war years, since many consumers have found that it is satisfactory to their needs.

Another development in the edible field is the use of glycerine in the immersion freezing of food. This process is now practiced on a very small scale since the limitation on equipment during the war retarded its development. However, it is likely to increase substantially when new equipment becomes available. Consequently, while the present estimate for post war use of glycerine in the above classes of edible products is set at 4 million pounds per year, it is quite likely that the consumption may be increased substantially above this figure.

Tobacco Products

The use of glycerine in the manufacture of tobacco products was 24.8 million pounds in 1940 and 25.8 million pounds in 1941. There have been some inroads made into this market by glycerine substitutes, but it is probably safe to estimate that approximately 25 million pounds per year will be used in this industry.

Dentifrices and Toilet Articles

The use of glycerine in dentifrices and toilet articles was 9.2 million pounds in 1940 and 11.3 million pounds in 1941. While there has been some expansion in the production of these products, there has also been some use of glycerine substitutes and consequently it is probably not safe to estimate more than 10 million pounds of glycerine per year in these fields.

Miscellaneous Uses

There are hundreds of miscellaneous uses for glycerine which accounted for 18 million pounds in 1940, 22 million pounds in 1941 and 16 million pounds in 1942. These uses range all the way from the manufacture of hydraulic fluids to dolls. Since some of the uses have been direct war requirements, it is probable that some of the gain in the three years will be lost. Consequently an estimate of about 16 million pounds for these uses is made.

ALL OF the uses discussed above will require approximately 184 million pounds of glycerine per year. In addition to these requirements the annual pre-war exports of glycerine were in the neighborhood of 2 to 3 million pounds. Consequently it is not likely that a steady requirement of more than 185 million pounds can be counted on in the post war years as compared with an estimated 190 million pounds disappearance for 1944.

In the pre-war years the world supply of glycerine always exceeded the demand in the producing countries in spite of the fact that probably not much more than 60 per cent of the available glycerine was recovered. The excess glycerine amounting to 25 to 30 million pounds found its way into the world trade. Perhaps one half of this excess was absorbed by South Africa and other countries which had demands greater than their domestic production. Most of the balance founds its way to the United States with the result that glycerine stocks showed a steady trend upward until the outbreak of the war in 1939. From that time until 1943 they declined as a result of decreased domestic production and greatly increased exports.

In the first half of 1943 the downward trend in stocks was halted by restricting consumption and the

(*Continued on Page 78*)

SOAP INDUSTRY MEETING

SOAP makers met for their annual industry meeting, January 12, at the Waldorf Astoria, New York. The gathering, called by the Association of American Soap and Glycerine Producers, also served as the 18th annual meeting of that organization. Roscoe C. Edlund, secretary and manager of the association, presided at the general industry session held during the afternoon and introduced speakers both from the industry and from the various government departments who contributed to a very significant gathering.

The first speaker introduced by Mr. Edlund was Capt. Ruth Anderson of the United States Army Nurse Corps, who told the group something of the importance of soap in and near the actual combat areas and thanked the industry for the assistance which numerous soap manufacturers have given by plugging for the Army Nurse Corps in their radio broadcasts.

In introducing E. H. Little, president of the association, and who, incidentally, was re-elected for the coming year, Mr. Edlund paid him sincere credit for the fine job he has done over the recent difficult period in handling the many delicate public and government relationships which have been one of the industry's most important problems. Mr. Little's review of the record of his stewardship is carried in full on the succeeding pages.

First of the government speakers to address the group was Lee Marshall, director of distribution for the WFA. He reminded the soap industry of the heavy responsibility which it faces in meeting both the military and the civilian demand for soaps and related products. This task, he agreed, is made more difficult by the fact that important fat producing areas are still in Japanese hands. The only two methods of making up this deficit, he said, are through increased domestic production and conservation. The outlook for the coming year, he reported, is for a shortage of at least one billion pounds of fats and oils as compared with our normal supply. In the face of this situation he called for a continuing emphasis on oil and fat salvage, and guaranteed the industry the fullest cooperation from the WFA in the fat salvage campaign.

William H. Jasspon, fats and oils chief of WFA, followed Mr. Marshall and reviewed the current and future fat and oil picture in greater detail. A lengthy extract of his remarks will be found in the following pages.

Robert G. Deupree, chief of the soap and glycerine unit of OPA, also spoke briefly, reviewing the effect of the recent replacement of CPR No. 1, which was superseded the first of the

F. A. COUNTWAY
Lever Bros. Co.
Eastern Vice-President

F. H. MERRILL
Los Angeles Soap Co.
Western Vice-President

N. S. DAHL
John T. Stanley Co.
Treasurer

W. A. McCONLOGUE
WFA Soap and Glycerine Chief

LEE MARSHALL
WFA Director of Distribution

ROBERT G. DEUPREE
Chief OPA Soap & Glycerine Unit

year by the newly amended version of MPR 391. Eliminated now, he said, is the former provision of CPR No. 1 which prohibited a manufacturer from bringing out a new soap product, or expanding his market area for an old product. Both are permitted now, although the permission of OPA must be obtained, and can be refused when the OPA believes that the change may constitute an evasive practice leading to a higher price or a lowered quality. He reminded his soap audience that another change effected in the new amendment is that it extends application of the regulation to owners and sellers of private brand soap products as well as to soap manufacturers. Sales of soap to the government, he advised, are not subject to MPR 391 unless the soaps supplied are regular branded products.

W. A. McConlogue, WFA's soap and glycerine chief, also reported briefly, commenting that in recent months some government agencies buying soaps have had trouble in getting soap makers to take contracts for the full quantities of soap they have been interested in buying. He advised that through the effective functioning of the Office of Civilian Requirements any temporary shortages of soaps in civilian distribution channels have been corrected by prompt shipments, complimenting the industry on its good record in controlling distribution.

J. W. J. Stedman in charge of soap purchases for the WFA, and F. A. Cross, procurement official of the Rubber Reserve Corp., also spoke on soap procurement problems of their agencies.

FOLLOWING the close of the industry meeting, a brief session was held which constituted the 18th annual meeting of the Association of American Soap and Glycerine Producers. The report of the nominating committee was read by G. R. Fulton of Beach Soap Co., Lawrence, Mass., who placed in nomination the following candidates for posts as directors: H. D. Banta, Iowa Soap Co.; H. F. Bernhard, Pioneer Soap Co.; C. E. Bertolet, Laurel Soap Mfg. Co.; O. M. Burke, Manhattan Soap Co.; F. A. Countway, Lever Brothers Co.; N. S. Dahl, J. T. Stanley Co.; R. R. Deupree, Procter & Gamble Co.; S. S. Fels, Fels & Co.; D. M. Flick, Armour & Co.; E. B. Hurlburt, J. B. Williams Co.; E. H. Little, Colgate-Palmolive-Peet Co.; F. H. Merrill, Los Angeles Soap Co.; E. A. Moss, Swift & Co.; G. A. Wrisley, Allen B. Wrisley Co., and C. F. Young, Davies-Young Soap Co. Messrs. Bernhard and Bertolet are new members of the board, the other directors being re-elected.

ROSCOE C. EDLUND
Secretary and Manager
A.A.S.G.P.

HERBERT KRANICH
Kranich Soap Co.
Chairman Potash Soap Division

C. L. WEIRICH
C. B. Dolge Co.
Vice-Chairman Potash Division

ANDREW FEDERLINE
Assistant Mgr. A.A.S.G.P.
Re-elected Secretary Potash Div.

The board of directors met at a later session to name the following slate of officers of the association for the coming year: President, E. H. Little; Vice-presidents, for the East, F. A. Countway, for the mid-West, E. A. Moss, for the West, F. H. Merrill; Treasurer, N. S. Dahl; Assistant Treasurer, H. F. Elberfeld, Colgate-Palmolive-Peet Co., and Secretary, Roscoe C. Edlund, who also serves as association manager.

MEMBERS of the Potash Soap Division of the association met in a morning session at which they discussed the specific problems of their group. W. A. McConlogue of the WFA and Robert G. Deupree of the OPA spoke briefly and conducted question and answer sessions. Mr. McConlogue reviewed the raw material supply problems with which the soap division of the WFA is contending at the moment, devoting considerable attention to supply of fatty acids and coconut oil.

Mr. McConlogue reminded his listeners that the War Food Administration has tried to go as far as practical in relieving potash soapmakers of the burden of war-time regulation. As examples, he cited the permitted use of 150,000 pounds of fats and oils without glycerine recovery when WFO-33 was in effect; the extra 10,000 pounds of fats and oils that even the smallest soapmaker is allowed to use over and above his regular quarterly quota; and the privilege which potash soapmakers have of charging to quota only one-half of their use of foots from refining of domestic vegetable oils, or the fatty acids derived therefrom, whether distilled or not. WFA tries to limit to potash soaps the quantity of whole soybean oil allocated to it for soapmaking. Potash soapmakers may apply for it on Form WFA 478 as required by Order WFO-29. The quantity allocated, however, is not large, he said.

He also stated that 1945 coconut oil allocations probably would be no larger than 1944. No increase in imports is expected. Red oil supply is likely to remain tight until producers reestablish their high production rate. WFA does not plan to reinstate glycerine recovery. Prospects for steel drums in the first quarter of 1945 are as favorable as in the last half of 1944.

Mr. Deupree attempted to clarify for the potash soap group the rather complicated price control regulations under which they must operate. Household soaps and cleansers, he advised, are covered by MPR 391, as amended December 28, 1944, while most products of the potash soap industry come under the General Maximum Price Regulation. On shampoos, he reviewed the triple-barreled controls which OPA has adopted. Those who sell packaged shampoos under their own names are covered by MPR 393. If a manufacturer packs under another seller's label, or sells in bulk, MPR 282 applies. Those who sell in bulk under their own labels come under the general jurisdiction of GMPR, which establishes the March 1942 top prices as current ceilings.

Mr. Deupree outlined the function of Supplementary Regulation No. 15 under GMPR, under which it is possible for certain low price sellers to obtain price relief from OPA. Under this regulation the OPA is empowered

(*Continued on Page* 129)

E. H. LITTLE
Colgate-Palmolive-Peet Co.
Re-elected President A.A.S.G.P.

Soap Record for 1944 Reviewed By E. H. Little

AS the president of the Association, I would like to review briefly certain events that have taken place during the past year in our industry and some of the things that we see that might face us during this year of 1945. Covering the year 1944, we know what those problems have been and how we have been able to meet them. Looking back, the accomplishments of the industry, with the splendid cooperation we have had from those in Washington that have worked with us, are such, I think, that we all have a right to be proud of the job that was done.

The tremendous quantities of soap required by the government have made necessary the largest production in the history of this country. I think practically every plant in this country has pushed through more fats and turned out more tons of soap than ever before. The big part of that increase, of course, has gone to the government or to concerns that are doing business for the government, like the rubber and textile industries and other war industries that are using great quantities of soap for war production. We have been limited of course to 90 per cent of the base period saponification for civilian use, plus whatever exquota fats we were able to get last June and July. As an industry, we have had very splendid cooperation from everyone we have contacted in Washington. As a whole, I don't believe the government services the world over have been short of soap despite the heavy demand.

Our main thought now, of course, is to continue cooperating with the government to provide all the soap

Annual Meeting of the Soap

Held at the Waldorf-Astoria, New York,

ON THE PLATFORM

Left to right—W. A. McConlogue, chief, soap and glyce
division of WFA; Lt. Ruth C. Anderson, Army Nurse Co
Lee Marshall, director of distribution of WFA; E. H. Li

Soap Industry

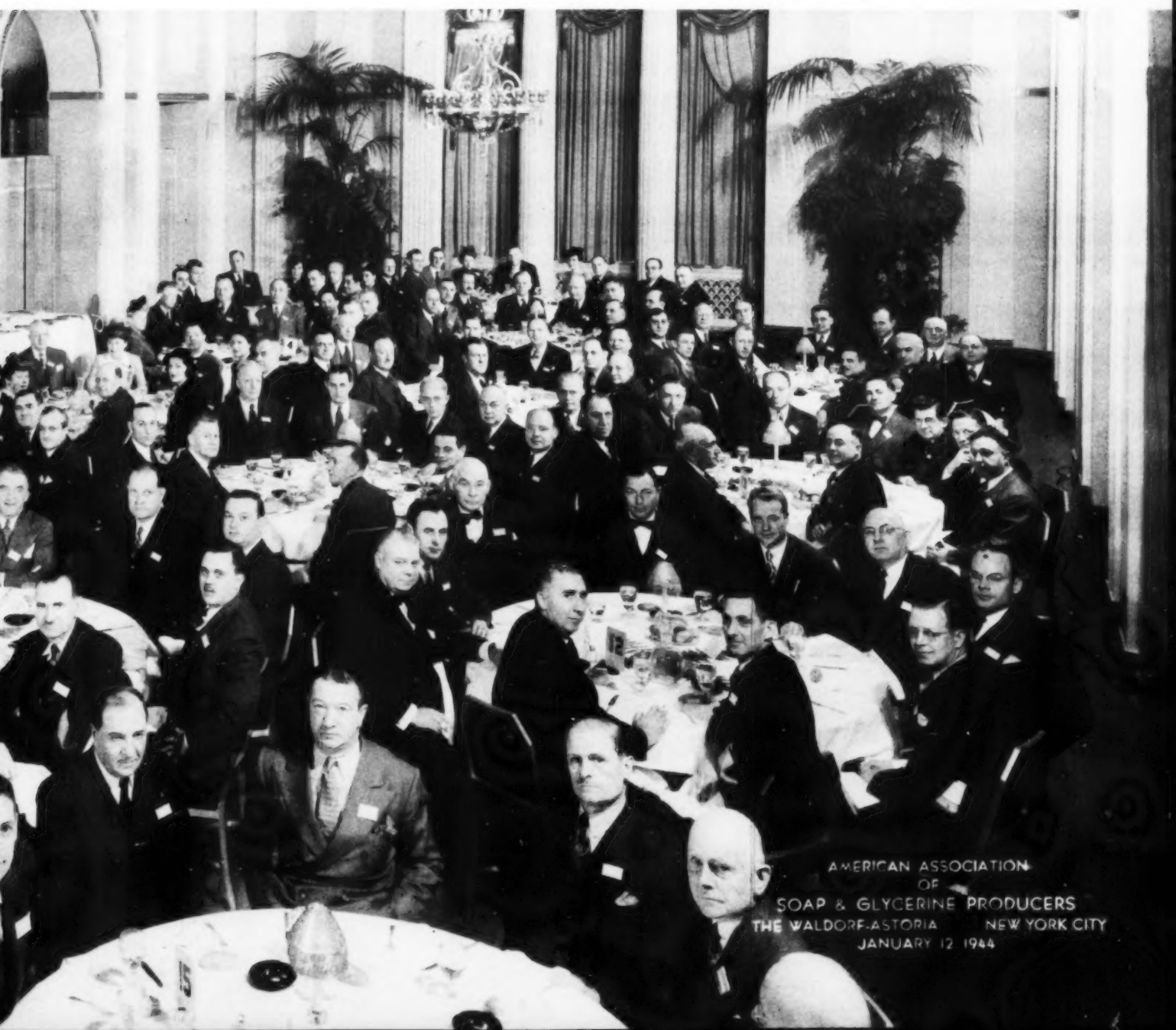
w York, January 12, 1945

M

soap and glycerine
Army Nurse Corps;
WFA; E. H. Little,

president of Colgate-Palmolive-Peet Co. and also of the Association of American Soap & Glycerine Producers; Roscoe C. Edlund, association manager and secretary; William H. Jasspon,

fats and oils chief of WFA, and Robert G. Deupree, soap and glycerine chief of OPA. Key and list of names of others in the picture will be found on the reverse side of this insert.



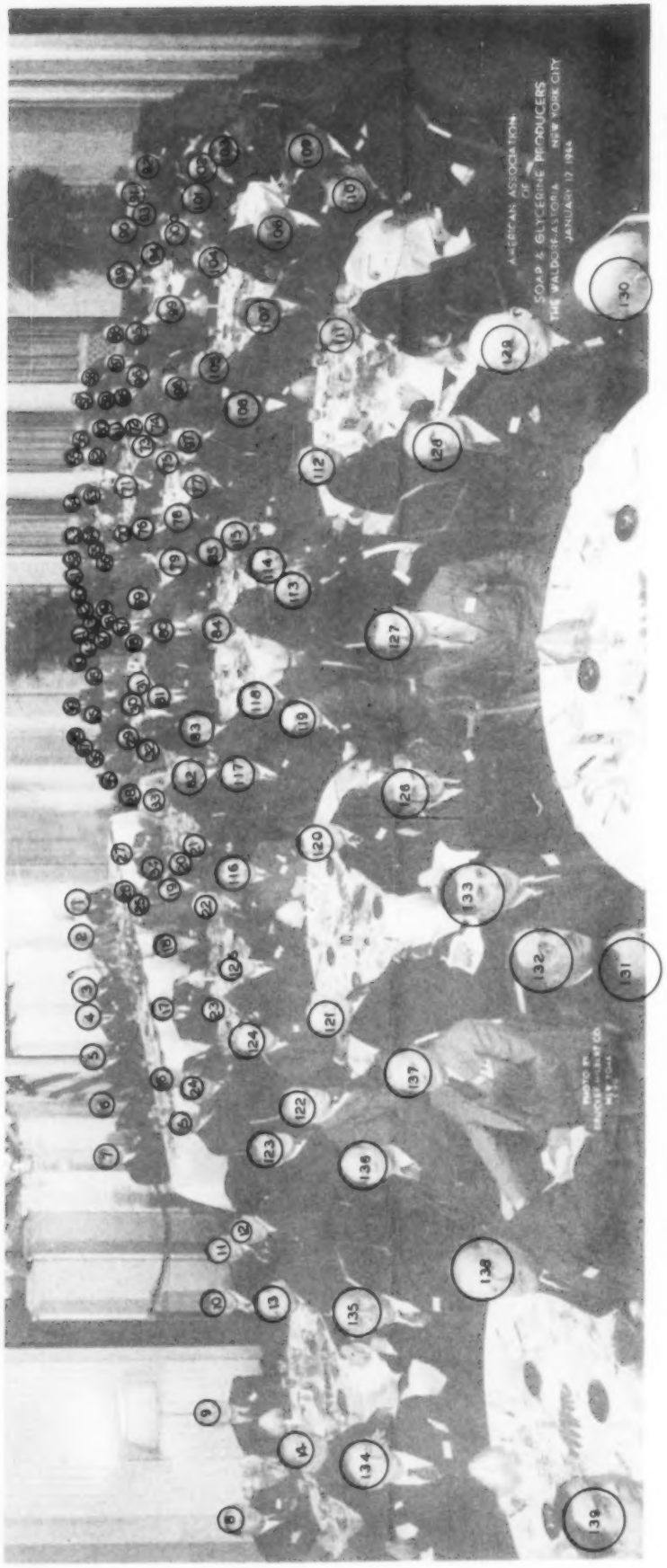


Photo Key to Attendants at Soap Meeting

Numbered circles in diagram at left correspond to heads in picture on reverse side of this sheet. Identification of individuals and company connections courtesy of Association of American Soap and Glycerine Producers.

1 R. G. Deupree
OPA, Soap and Glycerine Chief

2 W. H. Jasspon
WFA, Fats and Oils Chief

3 R. C. Edlund
Soap Association

4 E. H. Little
Colgate Palmolive Peet Co.

5 Lee Marshal
WFA, Distribution Director

6 Ruth C. Anderson
Army Nurse Corps

7 W. A. McConlogue
WFA, Soap and Glycerine Chief

8 K. Woltersdorf
Ferd. Mulhens, Inc.

9 J. S. MacIntosh
Quartermaster Corps

10 Glenn Wiggins
Kenyon and Eckhardt, Inc.

11 T. D'A. Brophy
Kenyon and Eckhardt, Inc.

12 H. C. Schleicher
Fischer's Surfa Saver

13 F. W. Luther
Soap Association

14 Wilder Breckenridge
Kenyon and Eckhardt

15 F. Formentati
Conti Products Corp.

16 L. G. Nunes
Conti Products Corp.

17 F. K. Alling
Soap Association

18 Georgia Leffingwell
Ames and Norr

19 Robin Fowler
American Perfumer

20 Wm. Roberts
F. W. Fitch Co.

21 T. R. Banks
Hershey Estates

22 Allan Ames
Ames and Norr

23 Geo. K. Dahl
Ames and Norr

24 H. F. Bernhard
Pioneer Soap Co.

25 Everett Hurlburt
J. B. Williams Co.

26 S. W. Meeks
J. B. Williams Co.

27 D. M. Flick
Armour & Co.

28 Hulda Kolene
Ames and Norr

29 A. Nunnikhoven
Iowa Soap Co.

30 Lois Wittman
Soap Association

31 C. L. Campbell
J. B. Williams Co.

32 Anne Fallon
Soap Association

33 C. E. Schaad
Chemical Mfg. & Dist. Co.

34 Mrs. C. E. Schaad

35 Mrs. Sweeney

36 A. P. Federline
Soap Association

37 M. V. Cleffi
Mennen Co.

38 Geo. S. Mennen, Jr.
Mennen Co.

39 G. R. Fulton
Beach Soap Co.

40 Joyce Carter
Ames & Norr

41 A. B. Stewart
Lever Bros. Co.

42 Mrs. Marian Tate
OPA, Soap and Glycerine

43 L. J. Oppenheimer
West Disinfecting Co.

44 C. L. Weirich
C. B. Dolge Co.

45 C. F. Young
Davies-Young Soap Co.

46 L. B. Schwarcz
Ampion Corp.

47 Wayne Dorland
MacNair-Dorland Co.

48 Frank Reilly
MacNair-Dorland Co.

49 R. H. Young
Davies-Young Soap Co.

50 Geo. Meyer
Colgate-Palmolive-Peet Co.

51 J. L. Elliott
Colgate-Palmolive-Peet Co.

52 Sal Frascinella
Soap Association

53 R. D. Goldberg
Soap Association

54 R. W. Peet
Colgate-Palmolive-Peet Co.

55 Mrs. C. W. Lenth

56 C. W. Lenth
Glycerine Research Consultant

57 Al. L. Kamen
Kamen Soap Products

58 C. D. Wood
Sinclair Refining Co.

59 G. E. Wolfe, Jr.
Texas Soap Corp.

60 E. A. Moss
Swift and Co.

61 D. Bachrach
Clifton Chemical Co.

62 Ira MacNair
MacNair-Dorland Co.

63 M. F. Schultes
Hewitt Soap Corp.

64 M. Richelson

65 J. E. Stevens
Soap Association

66 J. T. Stanley
John T. Stanley Co.

67 N. S. Dahl
John T. Stanley Co.

68 F. C. Scholler
Scholler Brothers

69 L. O. Koons
Scholler Brothers

70 D. R. McIver
Orig. Bradford Soap Wks.

71 S. Newman
Creco Co.

72 B. Newman
Creco Co.

73 V. Levinson
J. Eavenson and Sons

74 C. E. Bertolet
Laurel Soap Mfg. Co.

75 H. D. Armitage
Emery Industries

76 G. C. Perkins
Perkins Soap Company

77 W. A. Peterson
Colgate-Palmolive-Peet Co.

78 S. M. Best
Potter Drug & Chemical Co.

79 T. J. Wood
Procter & Gamble Co.

80 B. L. Marks
Lightfoot Schultz Co.

81 A. J. Caldwell
Lightfoot Schultz Co.

82 C. G. Fox
Fels & Co.

83 M. G. Johnson
Lanman and Kemp Barclay

84 W. F. C. Brooker
Enoch Morgan's Sons

85 M. A. Kenyon
Colgate-Palmolive-Peet Co.

86 M. Fuld
Fuld Bros.

87 C. B. Solly
Harley Soap Co.

88 H. Kranich
Kranich Soap Co.

89 H. J. Stevens
Stevens Soap Corp.

90 L. M. Rosenberger
National Milling and Chemical Co.

91 E. C. Haynes
H & H Cleaner Co.

92 J. H. Zucker
State Chemical Mfg. Co.

93 J. A. Walsh
Rochester Germicide Co.

94 J. E. Saal
Vestal Chemical Co.

95 E. J. Turner
Hercules Powder Co.

96 A. E. Keough
J. T. Stanley Co.

97 M. J. McCarthy
A. Gross and Co.

98 F. L. Jones
National Oil Products Co.

99 J. Wolfson
National Oil Products Co.

100 H. A. Batley
National Oil Products Co.

101 A. V. Swarthout
National Oil Products Co.

102 T. A. Printon
National Oil Products Co.

103 M. Shampanier
Atlas Soap Inc.

104 G. A. Wrisley
Allen B. Wrisley Co.

105 Van Allan Clarke
Allied Products, Inc.

106 W. Tisch
American Soap Powder Works

107 W. J. Merrins
Armour & Co.

108 T. F. Sheehy
Armour & Co.

109 P. W. Fulford
Armour & Co.

110 H. F. Lenz
Armour & Co.

111 L. P. Jenness
Woburn Chemical Co.

112 R. P. O'Rourke
Woburn Chemical Co.

113 A. Williams
Kenyon & Eckhardt Inc.

114 A. R. Tarr
Manhattan Soap Co.

115 O. Burke
Manhattan Soap Co.

116 Dudley Shaw
Allen B. Wrisley Co.

117 M. H. Pickard
Pacific Coast Borax Co.

118 F. J. Corkill
Pacific Coast Borax Co.

119 E. Emerson
John H. Breck, Inc.

120 J. W. Stedman
WFA, Procurement and Price

121 C. L. Eichorn
Acme Soap Co.

122 J. M. Lubit
Flash Chemical Co.

123 R. H. Blakeslee
The Skat Co.

124 J. S. Bigsby
Allen B. Wrisley Co.

125 H. Wrisley
Allen B. Wrisley Co.

126 J. B. Gordon
Bureau of Raw Materials

127 H. L. Blakney
Colgate-Palmolive-Peet Co.

128 M. Leudauphin
Roger and Gallet

129 J. A. Coulter
Colgate-Palmolive-Peet Co.

130 M. M. Stuart
Colgate-Palmolive-Peet Co.

131 J. A. Straka
Colgate-Palmolive-Peet Co.

132 H. Remington
Colgate-Palmolive-Peet Co.

133 H. R. MacMillan
Colgate-Palmolive-Peet Co.

134 C. N. Waterman
H. Kohnstamm & Co.

135 R. A. Phair
H. Kohnstamm & Co.

136 J. S. Bush, Jr.
Puritan Soap Co.

137 L. Webb, Jr.
Hunnewell Soap Co.

138 B. Schauder
Wolf Creek Soap Co.

139 G. Hust
Wolf Creek Soap Co.

and other products of this industry that they want in order to help bring about the speedy end of this war. I am sure the one thing that is uppermost in the minds of all of us is to try to do something, regardless of what it is —whether it is making soap or other products or anything else that we can do—to help end this war. That is the Number 1 job that all of us have before us.

I would like to touch on some of the things we have gone through. I will discuss fats first, beginning with the meeting here a year ago. It was felt at that time that fats would be very short and that perhaps our 90 per cent quota figure might be reduced or we might have to use linseed oil or something else. Mr. Leon Falk who was here a year ago, thought it would surely be necessary for us to use linseed oil in great quantities.

There was a meeting set up on that day. Later we went to Washington to work with the officials, and the problem was discussed and the difficulties foreseen. We had not been using linseed oil in the making of soap, and it was questionable whether we could. At any rate it was decided later that it wasn't necessary, and fats were made available throughout the year so that we could take care of the civilian requirements and the requirements of the government. I am sure that the people in Washington who worked with us on that very splendid job not only from this industry but from the various government agencies that requested all of the soap that was required, feel that a good piece of work was done.

We ran into the question of containers during the latter part of the year. As you know, we couldn't get enough new containers to take care of the soap that the government wanted and that the civilians should have, so we had to go out and buy second-hand or used containers. A grand job was done in that respect, and we got around that situation successfully, too. Although new cases were not available, the supply of soap was kept flowing to civilians in this country and to the various branches of the government which require soap.

I would like to touch on the question of what might be the proper amount of soap that we might be expected to make for civilians in this country. Back in 1942 and particularly in '43, when the possibility of rationing soap came up, we as an industry felt that it was our duty, and we were asked by some members of the government, to supply information as to what we thought was the proper amount of soap necessary to keep the people of this country in proper shape, to keep disease from spreading, and to keep up the morale of the people.

We advised the government that the rationing of soap would be one of the most difficult things to handle that the government could undertake. We prevailed upon them, after they made certain surveys and we made a great many, to allocate the quantity of fat they thought was sufficient to produce enough soap to take care of civilian needs, to let us saponify it to make the kind of soap that we thought proper to make from the fats allocated, and to allow us to distribute this soap. We convinced them that our interest was so great and that we knew so much about the requirements by neighborhoods, counties, even blocks in certain cities where soap needs vary even from one family to another depending upon the kind of work they do, that the government agreed to let us take the responsibility of distributing to civilians the soap that we

(*Continued on Page* 129)

W. H. Jasspon Warns Soapers To Conserve Fats in 1945

THE War Food Administration desires to avoid all unnecessary restrictions and the issuance of directive orders whenever there is any other way to accomplish our objectives. Our record shows that we have revoked one order after another. We have also liberalized various restrictions voluntarily just as quickly as we felt that we could relax any imposition. We do not wish at any time to interfere with any part of your activities which are not directly involved by the unusual requirements of the war emergency and the resulting dislocations to our domestic economy.

We have maintained contact with your industry on all major problems, so that our ultimate decisions have included the benefit of your advice and counsel.

Some of you may not realize the extent and completeness of the information which we are constantly acquiring from all over the world. It enables us to draw conclusions, based on facts not available to the public, limited, of course, by the ability of those in authority to interpret and evaluate the data accurately. Human beings can be wrong in their ultimate judgments whether they are in or outside the Government, but our average so far has been good. There is much to be said for the detached viewpoint of men in Government service. However, I can assure you we have no pride of authorship, nor do we seek to exercise our authority unless it is deemed to be absolutely essential. We are always ready and willing to modify, reverse, or amend any action upon adequate justification. This is the spirit which motivates our work in the War Food Administration. We are desirous as you are that such restraints as are

WILLIAM H. JASSPON
WFA Fats & Oils Chief

instituted, shall be temporary and not form a pattern for control to be continued after the emergency ceases to exist.

Many of us remember, too vividly I fear, the economic disaster which followed World War I, as a consequence of precipitate price depreciation of raw materials, especially fats and oils. I can well understand from my own experience in those days why each of us should strive to avert a recurrence of such an unprofitable performance. Caution is always a wise business attribute. But we have seen instances of excessive and unwarranted caution on several occasions within the past year, when temporary seasonal surpluses of certain raw materials occurred. It was our expressed conviction then that we were in no danger of a real surplus, yet buyers were not always available to absorb

(*Continued on Page* 131)

THE POTASH SOAP INDUSTRY

SINCE THE potash soap business in this country amounts to less than 2½% of the total soap business, little has been written about this section of the industry. But, while the volume is small, there are many more producers of potash soap than there are of the soda soaps, which include toilet soaps, bar laundry soaps, soap chips, flake soaps and soap powders.

There is a reason for this disproportionate number of producers to the relatively small tonnage of potash soaps produced—less capital is required to enter into the potash soap business than is necessary to produce and compete in the soda soap business. There has been little or no inclination on the part of the public to distinguish between the types of soap business, all soap businesses being lumped into a single group, and all being regarded as highly profitable.

Unfortunately for many, this is not true. One example stands out typically. Several years ago, two men called upon a potash soap manufacturer, one introducing himself as being in the potash soap business. With him was a man to whom he wanted to sell an interest in his business. During the visit, the prospective buyer said that a half interest would cost him $1500.00.

At this the manufacturer showed some surprise, knowing the investment in his own business, and began to ask some questions. It developed that the entire equipment consisted of one crutcher and one kettle, the capacity of each being about 30 gallons.

The two visitors were invited to take a trip through the plant, and were shown kettles to produce more than 5000 gallons of liquid soaps at a charge . . . crutchers of more than 10 times the capacity of theirs . . . filter presses for liquid soaps . . . a refrigerating plant for chilling liquid soaps before filtration . . . all of the equipment necessary to manufacture potash soaps. And finally they saw the laboratory, the control room of the potash soap production.

No, the prospect did not buy that half interest. But this does illustrate the fact that nearly everyone thinks that there are huge profits—and easy profits—to be had in the soap business.

Actually, the percentage of profit in the soap industry is small. The necessary investment in equipment is relatively large, if soap is to be produced on a scale that will permit economical operations. The small soaper, buying oils and alkalis in drums is at a distinct disadvantage in competition with those who buy in tank cars. The difference in raw material costs may, and often does, mean the difference between a profit or a loss.

Finally, it must be remembered that soap is produced by a chemical reaction, and it takes as long to finish 30 gallons as it does to finish 5000 gallons, with the exception of the time required to charge the raw materials into the larger kettle.

But, let us assume that you want to go into the manufacture of potash soaps. First you will need a factory, preferably situated on a railroad. This will enable you to buy oils and alkalis in tank car quantities. Of course, you must have the necessary storage tanks to store the various oils, fatty acids and alkalis that you will use.

Then you lay out the plant equipment. Determine what size boilers you will need, for soap making requires heat and power. Usually electric motors will furnish the power necessary to drive the crutchers and operate the pumps.

Now for the actual soap making equipment. There must be crutchers for the soft soaps . . . kettles with stirrers for the hard bodied, crystaline soaps . . . liquid soap kettles, filter presses, refrigerating units, cooling tanks for aging the liquid soaps, and storage tanks for the finished liquids . . . weighing tanks . . . scales. . . .

How much will this cost? That depends on the tonnage to be produced. One of the companies dealing in soap machinery states that the minimum cost* of equipment would be approximately $21,000.00, and from there on, the sky is the limit. You must also consider the cost of installing this equipment.

Actual Laboratory Control

WITH the plant set-up complete, let's look at the operation of the business. No longer is potash soap making a rule-of-thumb process. There was a time when the soap-maker was his own control laboratory, but observation over a period of decades has proved that accurate laboratory control is essential, in addition to good soapmakers.

In fact, the control laboratory and the soap-maker are complementary.

* The minimum cost to equip a plant to produce potash soaps was furnished by the Newman Tallow & Soap Machinery Company of Chicago.

The equipment included only that necessary to produce 12 barrels of oil soap or 12 drums of liquid soap per day, depending, of course, on the types of oil soaps or liquid soaps desired. If certain types of potash soaps are contemplated, such as the firm bodied 65% soap, this production would be cut to half or less, due to the production time necessary.

This figure does not include the necessary storage tanks for raw materials, which, of course, are essential and would be in addition to the figure given. However, the volume of production permitted by this minimum equipment is not sufficient to justify the purchase of raw materials in tank car quantities.

It is also to be noted that this equipment includes only one crutcher, and obviously, since this cannot be used for producing oil soaps and liquid soaps at the same time, the total effective production of this equipment would be reduced to approximately 12 barrels of soap per day.

You will need both, and both are equally important to the success of your venture. Without both, you will probably find that your estimated costs, on which you base your sales prices, are at variance with your actual costs, on which depend your profit—or loss.

Costs to be Considered

1. Raw Materials:
   This can be determined for each product by dividing the total cost of the oils and alkalis (and perfumes) by the yield of the finished soap produced. The yield will vary with the soap content of the finished products. These include:
   a—Actual material costs
   b—Freight and drayage in
   c—Any excise taxes or duties
2. Containers:
   This includes the drums, barrels, kits, kegs, pails or bottles, plus cartons, cases, strapping, etc.
   a—Actual container cost
   b—Freight and drayage in
3. Direct Labor:
   This includes all the direct labor expended on the production or manufacturing, distributed over the total tonnage produced during a selected period.
4. Indirect Labor:
   This includes laboratory salaries, and all other salaries or wages of those not directly connected with the actual manufacturing processes, as:
   a—Factory superintendent
   b—Research salaries
   c—Laboratory wages
   d—Janitors
   e—Firemen and engineers
   f—Maintenance men
   g—Truck drivers
   h—Guards or watchmen
   i—Stock room employees
   j—Shipping and receiving
5. Manufacturing Overhead:
   These include a proportionate share of the necessary costs attending any manufacturing process. Don't forget that each pound of soap must bear its share of that often intangible—but always present—thing called "overhead:"
   a—Factory supplies
   b—Shipping supplies
   c—Research and laboratory expense
   d—Building maintenance and repair
   e—Machinery and equipment maintenance and repair
   f—Fuel
   g—Light and power
   h—Water
   i—Rent
   j—Truck maintenance
   k—Insurance
   l—Taxes
   m—Depreciation
6. Administration:
   a—Salaries of officers
   b—Salaries of administrative employees
7. Administrative Overhead:
   Here's that "overhead" again, and here's where the unexpected expenses usually land:
   a—Office salaries
   b—Office supplies
   c—Office maintenance and repair
   d—Telephone and telegraph
   e—Postage
   f—Discount allowed
   g—Dues and subscriptions
   h—Credits and collections
   i—Donations
   j—Legal and accounting expenses
   k—Bank service charge
   l—Group insurance
   m—Executive travel expense
   n—Bad debts
   o—Interest paid
   p—Depreciation—office equipment
8. Selling Cost:
   a—Sales salaries and commissions
   b—Sales travel and expense
   c—Advertising
   d—Shows and conventions
   e—Dues and subscriptions
   f—Sales executives travel
   g—Insurance—salesmen's automobiles
   h—Depreciation salesmen's automobiles
9. Profit:
   This is the figure that you add to the total of the eight cost items listed above. If you want to make a profit of 6%, divide the total cost by 94; if 10% is your goal, divide by 90. And don't forget that any cash discount you offer comes out of your profit.

Your Market

CERTAINLY, everyone uses soap. Look at the figures, isn't this country the largest per capita user of soap in the world? On sober second thought, you begin to realize that only about 2½% of the soap used could possibly be potash soap, and even that is reduced when you again eliminate that potash soap used by the textile mills, products that are often beyond the scope of the usual potash soap producer.

Where then are the potential buyers of the potash soaps that you will produce? These are buildings, institutions, hotels, hospitals, factories, auto laundries, and, for the liquid shampoos, the beauty parlors. Packaged shampoos are on the shelves of every druggist and in nearly every store for individual use — shampoos that are widely advertised.

Competition for This Business

YOU will compete for your share of this 2½% of the soap business with several hundred well established soap manufacturers, and many times more jobbers or dealers who are already in the business of supplying potash soaps. You will compete with soap powders, with established brand cleaners, with established sources of supply that your prospects may already have.

It will probably be necessary for you to develop a line of allied sanitary supply products, if you are to achieve a place for yourself in the industry, and to supply the needs of your customers. These products will include disinfectants, polishes, waxes, deodorant blocks, furniture cream, drain pipe cleaners, and the many other chemical products used in building and institutional maintenance.

Freight rates also act as a competitor, for most soap businesses of this type operate in a limited area, an area that is fixed by the freight rates applying from your city. Only by keeping a close check on your costs, and buying raw materials in quantities that enable you to take advantage of every quantity reduction can this operational area be broadened.

Where to Locate

BEFORE attempting to establish a business of this type, a careful survey of the possible outlets is essential. Such a survey should take into consideration the competition within the area considered, and how securely this competition is intrenched.

In fact, this survey should be made before any consideration is given to plant facilities available, for if a market does not exist, the business is doomed to eventual failure before it can really get started. Too many have found that the limited sales volume in an area precludes any growth, and that constantly increasing expenses of repair and upkeep are ruinous.

There are some potash soap businesses that have produced a very modest living for one man, who is able to combine the duties of chemist, soap-maker, salesman—and yes, sometimes truckdriver — but the limited sales potentials of the area prevent any expansion with the attendant increases in operating costs.

In nearly every case, any man who combines the qualities required to produce a living wage from a one-

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DISHWASHING SANITATION

A Survey of Methods for Evaluating The Efficiency of Germicides Used for Dishwashing Sanitization

By A. S. Du Bois*
Onyx Oil & Chemical Co.

Part II

AMONG the media which have been used for plating are: Difco nutrient agar (16, 17), tryptone glucose extract agar,[3] with (23b) or without skimmed milk (5, 21, 35, 40), nutrient agar (2, 12, 29a, 34), rabbit blood agar (20), Loeffler's blood serum (5). Walter and Hucker (36a) have preferred tryptone-glucose-beef extract[4]. Unfortunately there is no comparative data available to permit a selection of the most effective one. France et al (13) have observed that yeast-extract neopeptone agar[5] gives better results than nutrient agar and they selected the former to promote the growth of *Streptococci* and other oral organisms.

A peculiar variant of the swab-rinse method in which the swab is placed in broth and incubated at 37° before plating on agar has been proposed by MacDonald and Freeborn (16). The author has been unable to find any comments on this procedure in the literature.

Comparison of the swab-rinse plate-count and contact-plate methods:

In concluding this review of the details of the various methods used for the evaluation of sanitizing agents, it is well to report several comparisons which have been carried out.

The swab-rinse plate-count method has inherent disadvantages, such as the difficulty, if not the impossibility, of removing all or even a fixed percentage of the bacteria from the surface examined; the unsuitability of the rinse solution as a menstruum for maintaining the viability of the bacteria, etc. Of course, its most striking disadvantage is the very well known presence of variables in the usual plate count technique. As pointed out by Tiedeman et al. (35), notwithstanding these weaknesses, the practical use of the test has shown that high counts generally are associated with careless methods of washing and sanitizing utensils. Fellers et al. (12) emphasize that all the swab methods they have used were very practical, rapid and simple and that the recovery was over 40% and often 75%. Of course, this method is applicable to any type of surface.

The contact plate method can be used only on flat surfaces. A large proportion of the variables associated with the swab-rinse plate-count method have been removed in this method. Its main advantages stem from the fact that it requires little equipment and that it is simple and speedy. Its superiority over certain forms of the swab-rinse plate-count method has not yet been demonstrated.

Walter and Hucker (36a) have compared their contact plate method with various swab-rinse methods. Table 3 is a rearrangement of the data published by these investigators. Of course this analysis is not truly representative, since many more tests were made with the contact-plate method than with either of the other two. Even then, it is clear that the stiff-wire swab-rinse method affords a higher recovery than the other methods investigated.

Another interesting series of comparisons was secured by testing the same area successively by two different procedures. When 18 dinner plates were first tested by the contact plate method and then by the wooden swab method, only 2 of the 18 plates showed counts higher by the subsequent wooden swab test than those obtained by the original contact plate test (36a). Reversing the procedure, 31 of the 46 plates tested showed higher counts by the subsequent contact plate test than by the original wooden swab test. The reason for this may be that the swabbing procedure

TABLE III*
Comparison of the Efficiency of Various Methods

Method	*Average % of total count obtained by first test*	*Lowest %*	*Highest %*	*No. of dinner plates used in test*
contact	43.5	26	78	11
contact	53.8	9	86	15
contact	45.3	30	68	12
contact	42.5	25	59	6
wooden swab	39.9	13	59	12
wooden swab	33.2	11	65	19
stiff wire swab	73.	56	82	4
stiff wire swab	50.1	31	64	7

* Compiled from the data of Walter and Hucker (36).

[3] The formula for the tryptone-glucose-beef extract agar (21) is as follows: 1% tryptone, 0.5% yeast extract, 0.3% K_2HOP_4, 5.0% gelatin, 5.0% sucrose, 1.5% agar, with the pH adjusted to 7.2-7.3.

[4] Contains 0.5% tryptone, 0.1% glucose, 0.3% beef extract, 1.5% agar, distilled water to make 1 liter, and is adjusted to pH 7.0.

[5] The formula for the media of France et al, is: 10.0 g. Difco Neopeptone, 5.0 g. Difco Bacto-yeast extract, 0.5 g. dextrose, 5.0 g. NaCl, 15.0 Difco Bacto-agar, 1000.0 ml. distilled water, with the pH adjusted to 7.5.

broke up colonies of organisms and left more individual cells on the plate, which would be picked up by subsequent contact-plate tests (36a). Another series of tests consisted in alternating the swab and the contact plate methods for five consecutive examinations. The average count per plate was between 2 to 2½ times as high with the contact-plate method as with the wooden swab method, regardless of which method was used first in the alternating procedure (36a).

Upon making consecutive examinations of equivalent areas by the contact-plate method and the stiff-wire swab method, it was found that a higher percentage of the total count was obtained by the first stiff-wire swab test on 7 out of 11 dinner plates examined (36a). This was repeated on 37 dinner plates and with 35 of these, the stiff-wire swab-rinse method gave much higher counts. These results are reproduced in table 4:

Walter and Hucker (36a, b) attribute this higher count by stiff-wire swab method to a breaking up of clumps of organisms during swabbing or during the agitation of the swab in the suspension fluid. However, this is not a satisfactory explanation, since a similar reasoning would apply to the wooden swab method, which shows lower counts than the contact-plate method.

TABLE IV*

Comparison of Counts Obtained on the Same Plate Using the Stiff Wire Swab Method and the Contact Plate Method

	SERIES A		SERIES B		SERIES C	
Plate No.	Wire Swab Count	Contact Plate Count	Wire Swab Count	Contact Plate Count	Wire Swab Count	Contact Plate Count
1.....	416	115	432	65	248	agar stuck
2.....	300	101	372	68	100	243
3.....	280	176	60	21	20	8
4.....	464	115	160	67	32	7
5.....	72	5	600	64	148	4
6.....	288	30	3,860	165	1,712	140
7.....	84	37	748	too many	196	28
8.....	1,104	50	3,250	110	112	30
9.....	1,284	141	2,850	520	408	24
10.....	344	20	928	500	216	70
11.....	556	110	96	596	4,220	16
12.....	...	...	2,080	524	1,336	11
13.....	...	...	416	50	...	...
14.....	...	...	6,460	600	...	...
15.....	...	...	6,000	600	...	...

*reproduced from (36a).

Laboratory Procedures:

SINCE the main object of this survey is to lay the foundations for the development of an acceptable laboratory method of evaluating the bactericidal efficiency of various sanitizing agents, it is certainly pertinent to include information which has been published in the different laboratory procedures dealing with this subject.

Probably the most important question is that of the specific bacteria to be used as representative test organisms, that will supply reasonably accurate information with regard to actual application. The organisms which have been isolated on eating utensils by various investigators are: *E. coli* (20, 22, 27, 33), *A. aerogenes* (20), *B. subtilis* (33), tubercle bacilli (6), diphtheria bacilli (7), *Borrelia vincenti* (25), *Staph. albus* (20, 27), *Staph. aureus* (27), hemolytic (7, 20, 27, 28, 33), non-hemolytic and viridans streptococci (27, 28), *Strep. salivarius* (11), and pneumococci (7, 33). Cox (4) reported finding organisms belonging to both the respiratory and intestinal groups, while Lynch and Cumming (19) and Cumming, Spruit and Reuter (6) reported only organisms of the respiratory group.

The following organisms have been used in simulating practical conditions in the laboratory: *E. coli* (6, 12, 28, 36a), *B. subtilis* (17a), *B. prodigiosus* (17a), *B. pyocyaneus* (30), tubercle bacilli (37), *E. typhi* (37), mixtures of *E. coli* and *S. aureus* (6), *Staph. aureus* (6, 28, 29a, 36a), *Strep. hemolyticus* (12), *Strep. pyogenes* (37), and *Serratia marcescens* (12). Fellers et al. (12) have shown that the recovery of organisms is always higher with pure cultures than with mixed cultures. Usually a 24-hour culture has been used.

A very important phase of any laboratory test procedure is of course the nature of the contaminants used to approach practical conditions. The inoculated soil may be applied to the test object, and then either washed and rinsed to reproduce actual operations, or else subjected to the sanitizing treatment only (23a). Krog and Marshall (23a) have used several types of contaminants: lactose broth cultures of bacteria obtained from human feces; heavy bacterial suspensions in sour cream; lipstick. Other contaminants used have been: milk cultures of *S. aureus* (17b), soft boiled eggs (minced) (37), melted Crisco (37), cooked Farina (37), neutralized mucin suspensions of bacteria (37), broth (30), egg albumen (30). Walter and Hucker (36a) have suggested adding 5 ml. of an 18-hour culture of *E. coli* to a soil[6], placing this on a plate and allowing to drain 15 minutes.

Mallmann and Devereux (28) as well as Mallmann (29a) have proposed to dip slides into suspensions of 24-hour cultures, using the growth from 3 to 4 well-covered agar slants distributed in 100 ml. sterile salt solution, immersing half of the slide and then draining and drying in air. Fellers et al. (12) have suggested making rim impressions of contaminated glasses on soft or firm agar, but point out that this has the disadvantage of contacting only limited portions and the results can not be easily duplicated. Cox (6), and Hall and Schwartz (17a, b) suggested that Petri dishes be inoculated with cultures, subjected to the cleansing treatment and then agar poured into the dish and incubated. Gilcreas and O'Brien (14) have advocated the use of glass slides contaminated with either a proteinous or a

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[6] The composition of this soil is: 235 g. peanut butter, 117.5 g. butter, 117.5 g. lard, 117.5 g. xylene and 117.5 cc mineral oil (36a).

[7] The composition of the soils, is: *Protein type*: 50 g. raw egg, 10 g. peanut butter, 10 g. lard, 10 g. butter, 10 g. milk; *Greasy types* 50 g. peanut butter, 25 g. butter, 25 g. lard, 20 g. mineral oil, 20 g. xylene.

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TRADE NEWS. . . .

Martin Schultes Ill

Martin Schultes, vice-president of the Hewitt Soap Co., Dayton, O., and in charge of the New York office of the company, is recovering from a severe heart attack suffered on January 23. Mr. Schultes, well-known in the soap and cosmetic industries and chairman of the BIMS of New York, has been confined to his home at 4 Orchard Lane, Kings Point, Great Neck, Long Island, for the past two weeks. Reports from his physician state that he is recuperating rapidly but that he will have to reduce his numerous activities in the trade until his recovery is complete.

Offer New Rug Cleaner

"Chromotex," a detergent for cleaning rugs and carpets is described by Mathieson Alkali Works, New York, in a new 16-page booklet which is being directed to the attention of storage warehouse operators. In addition to supplying directions for use, practical suggestions are included for dealing with customers, handling promises of delivery, notification of prior damage, guarantees of results, and other details. The product, it is claimed, disinfects, deodorizes, acts as a moth repellent and possesses other properties.

H. P. Trevithick Dies

Harry Phillips Trevithick, 58, chief chemist of the New York Produce Exchange and an expert in the chemistry and technology of soaps, glycerine and fatty oils, collapsed and died of a heart attack on the street in front of the building where his office was located Jan. 17. He was on his way to his home in Baldwin, Long Island, when he died. A native of New Britain, Conn., he was graduated from Wesleyan University, Middletown, Conn., in 1907 and from Massachusetts Institute of Technology in 1910. He joined the staff of the Produce Exchange laboratory in November, 1915, becoming chief chemist and consultant in August, 1917. Mr. Trevithick was active in many scientific societies, including the

HARRY P. TREVITHICK

American Chemical Society, Association of Official Agricultural Chemists and American Society for Testing Materials, of which group's D-12 Committee on Soaps he was chairman. He was a member and past president of the American Oil Chemists' Society, a fellow of the American Institute of Chemists, a member and past president of the Association of Consulting Chemists and Chemical Engineers. He is survived by his widow, Mrs. Katherine D. Trevithick; two sons, Harry P., Jr., of Oceanside, N. Y., and Lt. Douglas C., AUS, at present a bombardier in the South Pacific; a daughter, Mrs. Theodore C. Wessler, of Baldwin, and one granddaughter.

Committee D-12 Cancels Meeting

Cancellation of the Spring meeting of Committee D-12 on soaps and other detergents of the American Society for Testing Materials, was announced Jan. 27, by B. S. Van Zile, of Hercules Powder Co., Wilmington, secretary, and acting chairman since the death of former chairman, Harry P. Trevithick. Mr. Van Zile will continue in this capacity temporarily.

New Shulton Boston Showrooms

Shulton, Inc., New York, has recently announced the opening of new showrooms in Boston, at 131 Tremont Ave. The showrooms for the three principal Shulton lines: "Early American Old Spice for Women," "Old Spice for Men" and "Early American Friendship's Garden" for women, are decorated in the appropriate early American style. Each line has its own individual display. The Shulton Boston branch was opened about a year ago.

Lueders Not for Sale

F. J. Lueders, president of George Lueders & Co., New York, states that "the company is most emphatically not for sale and there is no prospect that proposals of that nature will be entertained." Mr. Lueders' statement indicated that rumors have been circulated in the trade to the effect that the company was for sale.

Albany Soap Elects Officers

Joseph Grober was reelected president and general manager of Albany Soap Co., Albany, N. Y., for 1945, at the corporation's annual meeting, Jan. 5, according to recent announcement. A new treasurer, Mrs. Madeline Grober, was elected at the meeting to succeed John H. Rea. All the other officers: William C. Schopman, vice-president; William H. Geier, vice-president and assistant manager, and Harry J. Geier, secretary, were reelected.

Training Plan Told by Soap Man

Guy J. Rocherolle, president of Roger & Gallet, New York, in the absence of Jean Ravaud, president of the French Chamber of Commerce of the United States, Inc., announced, early last month, the establishment of an organization which will provide business "scholarships" in American companies for groups of young French business and technical men.

DCAT Cancels Banquet

The annual banquet of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, scheduled to be held March 15, has been cancelled, it was announced Jan. 19. The dinner has for many years been the best attended event in the industry and normally attracts about 2,000 people from the drug, chemical and allied fields. The action was taken by the executive committee of the group in keeping with the spirit of the request of the War Mobilization Director. Last year's dinner, the largest ever to be held, was the 19th consecutive one to be held.

N. A. Smith, P&G, Dies

Noble A. Smith, 42, Dallas, district manager of Procter & Gamble Distributing Co., Cincinnati, died of a heart attack, Jan. 9 in Austin, Tex., while on an inspection trip of the firm's south Texas territory. Born in Ottawa, Kan., Mr. Smith was graduated from Ottawa University. He joined Procter & Gamble in 1927, in the Dallas division, and later served in the Minneapolis and St. Louis divisions before being appointed district manager of the Denver division. In 1939 he returned to Dallas as district manager. Surviving are his wife, Mrs. Lurine Dohoney Smith; two daughters, Betty Louise and Jo Anne Smith; a son, Tom Smith, all of Dallas; his father, Willard Smith of Ottawa, Kan.; two brothers, Claude, of Richmond, Calif., and Floyd Smith of San Bernardino, Calif., and a sister, Mrs. Madeline Walters, of Elsinore, Calif.

CD&CA Sees "Series"

The official American League motion picture film of the 1944 World Series was scheduled to be shown at the Jan. 25, luncheon meeting of the Chicago Drug and Chemical Association, at the Drake Hotel.

TGA Research Group Named

Among those serving on the recently appointed research advisory committee of the Toilet Goods Association, New York, are: W. M. Bristol, Jr., of Bristol-Myers Co.; P. H. Douglas, Bourjois, Inc., Dr. H. O. Hartfiel, Hudnut Sales Co.; Cecil Smith, Yardley of London, Inc., all of New York, and Dr. K. L. Russell, of Colgate-Palmolive-Peet Co., Jersey City, N. J. H. D. Goulden, director of scientific research and standards of the association is secretary of the committee, which is headed by J. H. McShane, of Pacquin, Inc., New York. The TGA research program, which was recently authorized by the executive board of the association, will select the problem or problems to be studied and determine the methods through which this project will be handled.

Analysis of Miscellaneous Glycerine Uses

CONSUMPTION of glycerine for a group of miscellaneous uses is tabulated in the December, 1944, issue of *The Fats and Oils Situation*, published by the United States Department of Agriculture. Use of glycerine during the years, 1940 and 1941, and allocations for 1942 and 1943 were the subject of an article in the February, 1944, issue of the same publication, which was reproduced in the May, 1944, issue of SOAP AND SANITARY CHEMICALS. This article failed to break down the miscellaneous uses of glycerine, which has now been done in the table below:

Consumption of glycerin by classes of products 1940 and 1941 [1]

Class of Product	1940	1941
	1,000 lb	1,000 lb.
Uses shown separately in previous table [2]	136,473	168,867
Antifreeze fluids [3]	17	35
Electrolytic fluids [4]	4	4
Hydraulic fluids [5]	137	140
Coolant fluids [6]	2	12
Embalming fluids	121	146
Miscellaneous fluids [7]	4	6
Masking and shielding compounds [8]	15	29
Grinding compounds [9]	14	20
Soldering compounds	59	64
Packing compounds [10]	32	50
Cement compounds [11]	53	103
Miscellaneous compounds	15	14
Lubricants [12]	55	107
Instrument and equipment manufacture [13]	46	46
Cleaning materials [14]	1,074	1,589
Waxes and emulsions [15]	50	76
Laboratory and research	20	15
Manufacture of chemicals [16]	726	1,408
Insect and microorganism control [17]	132	187
Miscellaneous manufactured products [18]	857	1,108
Decorative articles and toys [19]	99	114
Unidentified	354	995
Total	140,359	175,135

[1] Compiled by Fats and Oils Branch, War Food Administration from reports by 1,234 users on War Production Board Form PD-361.
[2] Table 6, pp. 16 and 17, "The Fats and Oils Situation," February 1944.
[3] Automatic sprinkler systems, de-frosting for glass, de-icing, gasoline or diesel engines.
[4] Galvanized cloth, lightning arrestor.
[5] Door closures, air (and other) brakes, vessel launching, floor hinge liquid, recoil mechanisms.
[6] Cutting solutions for metal working, quenching fluids for tools.
[7] Anesthetic, sealing fluid for centrifugal pumps, dust collecting liquid, stencil correction fluid, oxidation and evaporation inhibitor.
[8] Paint spray shield.
[9] Vitrified grinding wheels, valve grinding and lapping, artificial polishing stones.
[10] High pressure rod packings mechanical packings (asbestos), gasoline-resistant packings, high pressure and temperature packings.
[11] Litharge-glycerine cement (tubs and sinks, valve repair, still and distilling unit repair, anti-acid corrosion), pipe joint cement, furnace cement, transformer cement, freight car wood patch, plastic caulking compound, rethreading compounds.
[12] Air brake lubricants, thread lubrication oxygen cylinders, die lubricants, general lubricants.
[13] Mercury action thermometers, engine gauges, electrical equipment, telemotor systems, oil refinery equipment, flexible metal hose and tubing.
[14] Soap (milled and bar soap, liquid soap, leather and saddle soap, rug paste soap, mechanic's hand soap), synthetic detergent, and wetting agents, polishes, cleaners, dressings.
[15] Optical waxes, emulsifiers, wax emulsions, industrial protective cream.
[16] Reagent chemicals, manufacture of acrolein, manufacture of mono-, di-, and triacetin, invertase, hydrogenated naphthas, naphthenate driers, reconstructed oils, basic dyes, miscellaneous chemicals.
[17] Insecticides, bactericides, germicides, fungicides, sticky fly paper.
[18] Asphalt, coal tar thinners, flexible vulcanized fibre, pressure sensitive tape, diaper liners, fish bait, ceramic and water colors, photographic products, fire retardants, galvanizing and plating preparations, molding clay, graphite pencil leads, artificial leather and shoe lining.
[19] Cemetery wreaths, artificial flowers, dolls.

BIMS Hold Annual Dinner

BIMS of New York held their annual dinner on January 25, at the Hotel Lafayette, New York, the first ever held by this organization for members only. Owing to the food situation, the hotel was unable to accommodate the usual large gathering of BIMS and their guests, and accordingly guests were banned this year. About 75 members braved the sub-zero winds of the coldest day of the winter to attend. The enjoyable occasion was marred only by the absence of Martin Schultes of Hewitt Soap Co., chairman of the New York BIMS who was confined to his home by illness. A resolution wishing him a speedy recovery was introduced by Burton T. Bush of Bush Aromatics, Inc., and adopted. Charles Darr of Harriett Hubbard Ayer presided in place of Mr. Schultes and supervised the distribution of five war bonds by lot as prizes for the evening. The winners were Carl Voss, Dexter Neal, Joe Gartlan, Alex Henderson and Louis Bezard.

Mayham's Son Killed in Action

Pfc. Donald S. Mayham, 21, of the U. S. Army, son of the executive vice-president of the Toilet Goods Association, Stephen L. Mayham, and Mrs. Mayham, of Forest Hills, N. Y., was killed in action Nov. 15, in France, his parents were notified last month. Originally reported missing on Nov. 15, during the assault on Forts Driant and Jeanne de Arc, Private Mayham was killed on that date, the day before the forts fell. An only child, he was a third-year student at Johns Hopkins University when he entered the army 21 months ago. He went overseas last August.

Swift Sales at New High

Sales of Swift & Co., Chicago, set an all time record during the 1944 fiscal year, while earnings declined somewhat, according to the annual report made to stockholders by Pres. John Holmes. Total sales amounted to $1,573,992,504, an increase of $83,975,879 or 5.6 per cent over the previous year. Net profits totalled $15,662,635, equal to $2.64 a share, compared with $17,431,372, or $2.94 a share in the preceding year. Production in 1944 was handled by 3,000 fewer employees than in 1942, when the staff numbered 76,000.

Arthur T. Kemp, 74, Dies

Arthur T. Kemp, 74, son of George Kemp, a member of the wholesale drug firm of Lanman & Kemp-Barclay & Co., 135 Water St., New York, died Jan. 25, at Doctors Hospital, New York. He was the member of an old New York family and for several years before the present war was president of the American Hospital in Paris.

P & G Earnings Off

Its net profit showing a decline for the last six months of 1944, Procter & Gamble Co., Cincinnati, reported earnings of $9,856,948, equal to $1.49 a common share, for the period, as compared with $10,405,490, or $1.57 a common share in the corresponding 1943 period. A total of $7,990,400 was set aside for taxes in the last six months of last year, as against $10,054,500 in 1943's last half. No provision was made for renegotiation, the company stated, since it is believed the procedure would not materially affect the company's earnings. Earnings exclude profits of English and Canadian companies, except as they have been made available in United States funds, the report states.

C-P-P Quarterly Dividend 25c

The quarterly dividend on Colgate-Palmolive-Peet Co., Jersey City, N. J., common stock was increased by the directors to 25 cents a share, to be paid Feb. 15, it was announced recently. A 21½c rate has been in effect for several years. In August 1944, an extra of 25 cents was also distributed, while a year end dividend of $1 was paid in December, 1944.

Brodsky Pepsodent Advt. Manager

Frank R. Brodsky, formerly with Elgin National Watch Co., Elgin, Ill., has been named advertising manager of the Pepsodent division of Lever Brothers Co., Cambridge, Mass., it was made known recently.

WFA Offers Soapers Lard

Approximately twenty million pounds of off-condition prime steam lard have been released by the War Food Administration, Washington, to the army, it was announced Jan. 17 by the WFA. It is being offered by the WFA as agent for the army, to five soap manufacturers who have contracts for army ordinary issue soap. The amounts offered to each manufacturer were determined by army allocation. Manufacturers to whom it is being offered are: Procter & Gamble Distributing Co., Cincinnati, 8,600,000 pounds; Colgate-Palmolive-Peet Co., Jersey City, N. J., 6,045,000 pounds; Lever Bros. Co., Cambridge, Mass.; 2,790,000 pounds; Armour & Co. Soap Works, Chicago, 1,865,000 pounds and Manhattan Soap Co., New York, 700,000 pounds. The lard is located in storage tanks at Ivorydale, O.

Lignin as Soap Ingredient

The Industrial Chemical Sales Division of West Virginia Pulp and Paper Co., New York, has just released a new booklet dealing with "Indulin," the company's trade name for lignin derived from pine wood. "Indulin" of two types is said to be available in small quantities for experimental work. Among the potential uses for lignin is its incorporation as an ingredient in detergents. U. S. Patent 2,352,021, issued June 20, 1944, and vested in the Alien Property Custodian, describes its use for this purpose. Added to a detergent in amounts ranging from 20 to 50 per cent, it is claimed to provide an excellent washing material which will have no harmful effect upon textiles even if the washing material contains relatively small amounts of fatty acid salts.

Detrex Elects Officers

Detrex Corp., Detroit, celebrating its 25th anniversary at a series of meetings in various sales areas, has just announced the election of two new officers. A. O. Thalacker becomes vice-president and general manager and E. W. Allison, is the new secretary. To commemorate the anniversary, all employees having five or more years of continuous service with the firm are being awarded service pins.

She will—if it has the advantage of FLORASYNTH aromatic appeal . . . It is this vital "please" . . . created by distinctively faithful reproductions of the true floral odors . . . that permeates and distinguishes *your* products from all others . . Florasynth

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is one of a wide variety of SOAPAROMES that will add this vital "please" factor to *your* products . . .

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Florasynth Labs. (Canada) Ltd. — Montreal · Toronto · Vancouver · Winnipeg Florasynth Laboratories de Mexico S. A. — Mexico City

Essential Oil Dealers Meet

MEMBERS of the Essential Oil Dealers Association held their annual meeting at the Hotel Pennsylvania, New York, on January 12, the group re-electing John Montgomery of Fritzsche Bros., Inc., New York, as president of the organization for the coming year. In his report to the members Mr. Montgomery discounted the possibility of any substantial immediate relief for the American essential oil and perfuming material supply situation through imports from France. The small quantities of perfuming materials that are obtainable in France are being held at such high prices as to practically prevent their importation for sale by any dealer within ceiling price limitations, he asserted.

Dr. Eric Kunz, president of Givaudan-Delawanna, Inc., New York, and chairman of the scientific committee of the group, reported that the association has made great strides toward standardizing essential oil specifications. This work has been carried on in close cooperation with the National Formulary and the U. S. Pharmacopeia, he pointed out, adding that there has been a noticeable tendency on the part of the U. S. Pharmacopeia to devote itself primarily to medicinal substances, while the National Formularly is becoming the book in which aromatics of lesser therapeutic interest will be found.

JOHN MONTGOMERY
Fritzsche Bros. Inc.
Re-elected President

M. Lemmermeyer, of Aromatic Products, Inc., New York, presented the annual report on aromatic chemicals, and Robert B. Magnus, of Magnus, Mabee & Reynard, Inc., New York, chairman of the executive committee reported on the activities of his committee during the year.

Other officers reelected for the coming year, included: vice-president, William Schilling, Jr., Norda Essential Oil & Chemical Co., secretary-treasurer, Robert B. Magnus, Magnus, Mabee & Reynard, Inc., both of New York. Frederick G. Buehler, of George Lueders & Co., and Louis Rapin, of Antoine Chiris Co., both of New York, were elected to the executive committee.

New members accepted by the association during the year were: General Drug Co., Brooklyn, Centflor Manufacturing Co., and Syntomatic Corp., New York, and Neumann Buslee and Wolfe, Chicago.

New Rural Waste Fat Plan

A plan to intensify collection of waste fats in rural areas through close cooperation between the WFA, agents of the Department of Agriculture, and Railway Express Agency was announced by the War Food Administration, Jan. 6. Although a similar arrangement was attempted by the War Production Board and the Railway Express Agency about a year ago, the fact that there were few representatives of the WPB in rural areas reduced the effectiveness of the plan. The Department of Agriculture, on the other hand, has many county agents throughout the United States, particularly in the rural areas, who will now be enlisted in the fat salvage effort. It is believed that it may be possible to salvage an additional three to five million pounds of used fat monthly from rural and small town areas.

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MAKES BAD ODORS VANISH!

TODAY, bad odors are stealing off with many a manufacturer's profits . . . are actually robbing him of sales. We contend that this waste imposed upon numerous technical products by the repellent character of certain basic constituents, is a needless loss and that it can be overcome completely and economically by this widely used, time-proven odor neutralizer . . . NEUTROLEUM. A powerful aromatic created by our laboratories for just this purpose, NEUTROLEUM makes quick, permanent dispatch of the most persistent and objectionable odors.

A glance at the accompanying list of applications representing some of the uses to which NEUTROLEUM is being successfully applied, is clearly indicative of its practicability as a deodorant for technical use. We believe we can prove this to you conclusively if you will send us a sample of your product which will be returned to you effectively deodorized as a demonstration of what NEUTROLEUM can do toward eliminating this needless handicap to your product's sales.

AMONG TODAY'S USERS OF NEUTROLEUM ARE MANUFACTURERS OF:

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- INSECTICIDES
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- PHOTO ENGRAVING SUPPLIES
- PRINTING INKS
- PRESSROOM SPECIALTIES
- SOAPS
- LEATHERS
- PAINTS
- PENETRATING AND CUTTING OILS
- TEXTILE CHEMICALS
- HOSPITAL DEODORANTS
- STARCH
- BATH PRODUCTS
- SULPHONATED OIL PRODUCTS
- WAXES
- JANITORS' SUPPLIES
- LABORATORY SUPPLIES
- DRAWING COMPOUNDS FOR METAL-WORK
- SHOE POLISHES
- DENTAL SUPPLIES
- GLUES
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OVER THE TRANSOM

by Preston Peaker

NEW YORK—Soap makers held their annual industry meeting here last month, heard the bad news on the oil and fat outlook which they had probably figured out for themselves anyway, and which, incidentally, had been predicted in these pages for several months. They were advised that in spite of not being able to get raw materials out of which to make soap, and not having any labor with which to make it, they are still going to be expected to supply the nation's tremendous 1945 soap demands.

* * *

At a meeting of the soap industry advisory committee, held in Washington ten days later, a smaller group of industry members had another chance to explain just why the industry, with its terrific labor and raw material problems, is not always able to accept at a moment's notice each new government order for another "jillion" pounds for soap to be used in washing more of our newly "liberated" allies.

* * *

Both soap makers and government representatives seem to share the general opinion that current advertisements of numerous soap sales by large city department stores are poorly timed, and of rather questionable judgment. The present would obviously not seem to be the appropriate time for such sales stimulation, or for sampling campaigns, etc.

* * *

As we listened to an anlysis of the multiple regulations by which OPA governs the pricing of shampoos, we were finally convinced that when it comes to piling up complications, an economist can spot a lawyer all four aces, and still win hands down. If you sell in green bottles one regulation applies; if you sell only to left handed people, you come under a different set of rules. Is it any wonder, that many a small operator throws his hands up in despair? It is repetitious, we suppose, to observe, that he would need four accountants, seven lawyers, and subscribe to at least eighteen Washington services to be sure of avoiding transgression of the multiple rules and regulations.

* * *

"What chance is there of getting coconut oil from the Philippines?" is the question that many soapers are asking. The answer probably is that even if our current campaign frees the islands in the course of the next three months, there is still little prospect of getting sufficient coconut oil out to do much good in meeting the world-wide fat shortage before the middle of 1946. At the current writing, Gen. MacArthur is very busy with the war, and is reported to be rather unconcerned, as well he might be, with the needs of the soap industry, or anyone else, for coconut oil.

* * *

With carbonate of potash placed on allocation February 1, the future outlook for caustic potash supplies assumes a definitely ominous look. Carbonate of potash is produced from caustic potash, and the allocation status for carbonate would point to a very tight position on the number one raw material requirement of the potash soap manufacturer.

* * *

Incidentally, it may not be general knowledge, but the largest consumers of caustic potash in the soap industry today are not potash soap manufacturers. On a tonnage basis, some of the large soda soap manufacturers are bigger figures in the caustic potash market than any single manufacturer of potash soaps. Caustic potash has gone a long way in recent years to preserve the lathering qualities of hard soaps in the face of the shortage of high lauric acid oils.

* * *

When the WFA issued an allocation pattern on refined tall oil last June, placing soap uses at the end of the list, it did not seem to present any particularly serious problem for the soap industry. There was then plenty of tall oil, and the prospect was that the preferred users (who include makers of metal working compounds, oil emulsions, degreasing materials, lubricants, polishes, waterproofing materials, insecticides, disinfectants, etc.) would take only relatively small amounts of tall oil, leaving ample quantities for the soap kettle. The situation has changed considerably since that time, we are told, and soap makers are currently having considerable difficulty in obtaining tall oil. We have heard of at least one case where a soaper with a large Army order for soap, backed up by a top priority, was unable to get needed supplies of refined tall oil.

* * *

Mention of priorities reminds us that our former office boy has just written us from Mindoro, asking us to use our Washington influence to hav the next plane leaving the White House stop at Dubuque to pick up his St. Bernard dog for rapid transshipment to the south Pacific.

* * *

One of our well known contemporaries, *Printers' Ink*, reports in its issue of January 19 that Lee Marshall, distribution director of WFA, will soon quit this post. Mr. Marshall, who was president of Continental Baking Co. before taking up his duties at WFA, was one of the speakers at the soap industry meeting in New York. *Printers' Ink* grapevines the observation that Mr. Marshall is cutting loose as a protest against the way WFA has been shoved around by other alphabetical contestants in the Washington Battle Royal.

* * *

At a meeting of pyrethrum processors in Washington last month, word got out that pyrethrum imports from Kenya over the balance of 1945 are going to be large—really big. How much of this will be allocated to agricultural and household insecticide uses, if any, is a question. More of it, however, will go into Army and Navy louse powders to speed up the present slow action of plain DDT powders.

* * *

Noted a prominent insecticide manufacturer recently that there had been no meeting of the WPB Insecticide and Disinfectant Manufacturers Advisory Committee in a number of months—and how fortunate this industry is to have no problems to discuss with WPB such as shipping cases, glass containers, sprayers, cans, pyrethrum and rotenone supplies — and also how fortunate WPB is to need no information from the trade on these matters. Do you think that this bird was pulling our leg?

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KEEPING up to schedule on Uncle Sam's orders has had both you and us working under forced draft these many months. Crown plants, manpower, machinery and materials have been devoted exclusively to the production of plane parts, gas mask canisters, munition boxes and cans for packaging military supplies and food and essential civilian products. But we have planned for the day when we can say: "Send us your orders for consumer cans!"

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BIDS AND AWARDS

P. O. Soap Bids

The following bids were received in recent openings for miscellaneous supplies by the Post Office Department, Washington, D. C.: 99,380 pounds of laundry soap, Peck's Products Co., St. Louis, fob Atlanta, 18,660 pounds, 7.125c, fob Kansas City, 13,260 pounds, 7.125c and Standard Soap Co. of Camden, N. J., 6.75c; on 2,132 pounds of grit soap, Unity Sanitary Supply Co., New York, 9c, fob New York, and Day & Frick, Philadelphia, 4.65c, fob Philadelphia.

WFA Toilet Soap Awards

The following War Food Administration soap awards have been announced recently in connection with openings for miscellaneous supplies by the WFA; J. Eavenson & Sons, Camden, N. J., 50,000 pounds of milled or floating toilet soap, 21.559c a pound; Iowa Soap Co., Burlington, Ia., 50,000 pounds of milled or floating toilet soap, 16.75; Procter & Gamble Dist. Co., Cincinnati, 137,520 pounds of toilet soap, 16.928c a pound and Lever Bros. Co., Cambridge, Mass., 185,700 cakes of toilet soap at 4.91c a cake.

N. Y. Navy Degreasing Bids

The following bids were received on 3,500 gallons of degreasing and cleaning compound in a recent opening for miscellaneous supplies by the Navy Purchasing Office, New York: Crystal Soap & Chemical Co., Philadelphia, 52.2c; R. M. Hollingshead Corp., Camden, N. J., 66c, 43 to 47 per cent carbon tetrachloride and 53 to 57 per cent naphtha; Oil Specialties & Refining Co., Brooklyn, 80.9c; Atlantic Refining Co., Philadelphia, 86c, packed five gallon can to wood case, or 89c, in five gallon buckets; West Disinfecting Co., Long Island City, N. Y., $1.25, including returnable cans at 65c each; Curran Corp., Malden, Mass., $8 per five gallon can, less 10 per cent Govt. discount, "Gunk Concentrate P-96" degreasing solvent, or $9.90 per five gallon can, less 10 per cent Govt. discount "Gunk Comp. H-S decarbonizer," and E. F. Drew Co., New York, $1.44.

Insecticide Award to Sinclair

Sinclair Refining Co., New York, submitted the low bid of 92c, which was accepted, on 100 gallons of insecticide in a recent opening for miscellaneous supplies by the Department of Justice, Springfield, Mo. Other bidders were: Brilco Laboratories, Brooklyn, $1.06; Capitol Chemical Co., Washington, $1.63 and Thompson Hayward Chemical Co., Kansas City, Mo., $1.55.

Cleaning Fluid Award

Globe Solvents, Philadelphia, entered a bid of $2,720.75 on 5,000 gallons of cleaning fluid, which was accepted, in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard. Other bidders included: Crystal Soap & Chemical Co., Philadelphia, 57.2c; A. C. Fergusson Co., Philadelphia, 63.5c; R. M. Hollingshead Corp., Camden, N. J., 63c; Midwestern Sales, New York, $6,476 for the lot, and Shell Oil Co., New York, 61c.

WFA Soap Awards

The following awards were announced on two types of soap in a recent opening for miscellaneous supplies by the War Food Administration, Washington, D. C.: Colgate-Palmolive-Peet Co., Jersey City, N. J., 60,000 pounds of toilet soap, at 12.42c a pound and Armour & Co., Chicago, 57,500 pounds of blue streaked laundry soap, at 6.41c a pound.

WFA Lever Soap Purchases

The following soap purchases from Lever Bros. Co., Cambridge, Mass., were announced in a recent opening for miscellaneous supplies by the War Food Administration, Washington, D. C.: 7,500 cases of five ounce packages of "Lux" flakes at 8.08c a package; 4,000 12½ ounce packages of "Lux" flakes, 20.05c; 7,500 nine ounce packages of "Rinso," 8c; 2,500 24 ounce packages of "Rinso," 20c; 29,200 four ounce cakes of "Lifebuoy" soap at 5.55c a cake; 50,000 3¾ ounce cakes of "Lux" toilet soap, at 5.55c and 1,700 2½ ounce tubes of "Lifebuoy" shaving cream, 18.04c a tube.

Philadelphia Navy Awards

In recent openings for miscellaneous supplies by the Philadelphia Navy Yard for 300 liquid soap dispensers and 10,000 cakes of urinal deodorant the following awards were announced: Noland Co., Washington, D. C., Moore Bros., Washington, D. C., material, $1; and Crystal Soap & Chemical Co., Philadelphia, 5.6c. Other bidders on the soap dispensers included: West Disinfecting Co., Long Island City, N. Y., at $1.60 and William Messner Corp., New York, $1.10. Other bidders on the urinal deodorant cakes were: Clifton Chemical Co., New York, 7.5c per cake; Creco Co., Long Island City, N. Y., 11c; C. B. Dolge Co., Westport, Conn., 8.9c; U. S. Sanitary Specialties Corp., Chicago, $1.10 a dozen.

Crosby Expansion Plans

Crosby Naval Stores, Inc., Picayune, Miss., has recently announced the purchase of 340 acres at DeRidder, La., which includes a plant site. In addition, the company has purchased 100,928 acres of stump land in Vernon and Beauregard Parishes, La., and stump rights on 270,349 acres in western Louisiana. Plans are now being drawn up for construction of a 685 ton plant immediately following the end of the war in Europe. The company plans to manufacture all grades of wood rosin from B to X, the pale grades being manufactured under Crosby's patented processes, turpentine, pinene, dipentene, all grade of pine oil and other terpene products will also be manufactured. All buildings will be of modern design, constructed throughout with concrete and steel. A large modern research laboratory will be built at DeRidder.

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NEW TRADE MARKS

The following trade-marks were published in the January issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

LENTHERIC—This in upper and lower case, medium letters for toilet, bath and shaving soaps and shaving creams. Filed Sept. 2, 1944 by Lentheric, Inc., New York. Claims use since 1873.

SPRAY-X—This in upper case, extra bold, black letters for glass cleaning and polishing preparation. Filed Sept. 14, 1944 by Spray-X Co., Maywood, Ill. Claims use since June 17, 1943.

NIVRA—This in upper case, bold letters with an oversized open "V" for surface cleaning compound in powdered and flake form. Filed Oct. 7, 1944 by Nivram Mfg. Co., Kansas City, Mo. Claims use since Aug. 14, 1944.

SURFA-TONE — This in upper case, extra bold letters for multipurpose cleansing and polishing preparation. Filed Oct. 7, 1944 by Vita-Var Corp., Newark, N. J. Claims use since Aug. 10, 1944.

THERMOL—This in upper case, bold stencil letters for scouring agents used in the textile industry. Filed Oct. 12, 1944 by Quaker Chemical Products Corp., Conshohocken, Pa. Claims use since Oct. 1, 1935.

EL-BEE CEMENT CLEANER — This in upper case, extra bold, black letters for cement cleaning composition. Filed Oct. 19, 1944 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Sept. 26, 1941.

REH—This in capitals and small capitals, on a reverse vertical rectangle, the lower half of which bears uniform waving lines for chemicals for deterging and scouring. Filed Sept. 9, 1944 by Rohm & Haas Co., Philadelphia. Claims use since July 1, 1908.

PLYOKEM—This in upper case, extra bold, black letters for liquid cleaner for miscellaneous purposes. Filed Oct. 21, 1944 by Diversey Corp., Chicago. Claims use since Sept. 29, 1944.

DESOGEN—This in upper case, medium letters for disinfectants, germicides and antiseptics. Filed July 25, 1944 by Geigy Co., New York. Claims use since Apr. 27, 1944.

O-S—This in upper case, bold letters for cleaning material for laundry and other uses. Filed June 7, 1944 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since July 27, 1936.

THE GUARDIAN LINE—This in upper and lower case, script and block letters for metal polish; liquid, powder and cake soaps of all kinds; scouring powder; sweeping compounds; liquid cleaners, including blackboard cleaners; toilet bowl cleaners; antiseptic cleaners; soda cleaners and chemical cleaners for dairies. Filed July 8, 1944 by Palmer Co., Inc., Waukesha, Wis. Claims use since Jan. 1, 1944.

GEMSHINE—This in upper case, screened block letters for soap and wax floor, wall and painted surface cleaner. Filed July 17, 1944 by Gem Products and Mfg. Co., Detroit. Claims use since Dec. 15, 1942.

PINE-O-LENE—This in upper case, bold letters for floor and furniture washing and cleaning compound. Filed Sept. 15, 1944 by Carsello Chemical Products, Chicago. Claims use since Sept. 1, 1939.

LIK-NU—This in upper case, extra bold, black letters for powdered soap. Filed Oct. 24, 1944 by Charles Seiler, Philadelphia. Claims use since Oct. 1, 1944.

INVASION BRAND—This in upper case, medium letters above and below the overalled figure of a man spraying for multipurpose cleaner, and liquid, powdered and bar soaps. Filed Oct. 3, 1944 by Snow Chemical Co., Portland, Ore. Claims use since Aug. 18, 1944.

AMMATE—This in capitals and small capitals for ammonium sulfamate compounds used as a weed killer. Filed Aug. 11, 1944 by E. I. du Pont de Nemours and Co., Wilmington. Claims use since Feb. 17, 1944.

SURFA-TONE — This in upper case, bold letters for insecticide. Filed Sept. 23, 1944 by Vita-Var Corp., Newark, N. J. Claims use since Aug. 10, 1944.

PRIM—This in upper case, extra bold, black italic letters for shampoo. Filed Sept. 26, 1944 by Primrose House, Inc., New York. Claims use since Jan. 4, 1944.

VITA-VAR—This in large and small capitals for cleaning and polishing preparation for silverware, metals, etc. Filed Aug. 16, 1944 by Vita-Var Corp., Newark, N. J. Claims use since Mar. 1932.

DOWNITE—This in small, stencil letters for non-metallic abrasive faced textile material for cleaning and polishing. Filed Sept. 27, 1944 by Downy Products Co., Orange, N. J. Claims use since Aug. 25, 1944.

LUCIDENT—This in upper case, extra bold, black letters for self-acting effervescent tablets for cleaning false teeth. Filed Oct. 30, 1944 by Lucident Co., Elizabeth, N. J. Claims use since Jan. 1944.

SLYDE—This in upper and lower case, open, script letters beneath the figure of a man on skis sliding down hill in the same direction as the letters for shaving creams. Filed Oct. 30, 1944 by Ormont Drug & Chemical Co., Long Island City, N. Y. Claims use since Aug. 3, 1940.

NORM—This in extra bold, upper case letters for colloidal skin cleansers. Filed Nov. 7, 1944 by Personal Luxuries Co., New York. Claims use since Jan. 1, 1944.

WOR-MOR—This in upper case, extra bold letters for worm remover in powder and tablet form for poultry. Filed June 15, 1944 by Hilltop Labor-

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. . . and add to your compound at low cost, more valuable qualities such as quick-wetting action, thorough emulsifying power and the very special function, preventing redeposition of the removed dirt on the clean object.

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PQ Silicates are available in liquid or powder grades. The current edition of our general catalog lists 50 brands. A few of the most important for detergent purposes are:

G BRAND ($Na_2O.3.22\ SiO_2$) Hydrated sodium silicate. Fine, soft, white powder, rapidly soluble.

GC ($Na_2O.2SiO_2$) Powdered sodium silicate. Hydrated, alkaline, more quickly soluble than "G".

SS-C-PWD. ($Na_2O.2SiO_2$) Anhydrous powdered sodium silicate, slowly soluble. Ground to pass 65 mesh.

METSO GRANULAR ($Na_2SiO_3 \cdot 5H_2O$) Original sodium metasilicate (U.S.Pat. 1898707). Free flowing, white granular product.

METSO 99 ($Na_3HSiO_4 \cdot 5H_2O$) Sodium sesquisilicate (U. S. Pat. 1948730, 2145749). White, granular and free flowing.

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atories, Minneapolis. Claims use since 1939.

NICOCIDE—This in upper case, bold letters for agricultural parasiticides. Filed July 22, 1944 by California Spray Chemical Corp., Wilmington, Del. Claims use since Sept. 28, 1928.

FOAMICIDE—This in upper case, bold letters for chemical composition for addition to foaming liquids present in bottle and container washing processes to prevent and depress the formation of foam therein. Filed July 22, 1944 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Apr. 21, 1944.

HANICE—This in upper case, reverse and black on white letters above the drawing of a pair of hands on a circular background for hand lotion. Filed Aug. 5, 1944 by York Laboratories, Sacramento, Calif. Claims use since July 19, 1944.

SOIL-TEKS—This in upper and lower case, extra bold letters for protective skin cream. Filed Sept. 9, 1944 by Medi-Synth Laboratories, Los Angeles. Claims use since June 1, 1944.

SEVEN SEAS—This in upper and lower case letters for shampoo. Filed Oct. 10, 1944 by Monroe Distributing Co., Los Angeles. Claims use since July, 1944.

GIWAN—This in extra bold, black upper and lower case script letters for insect repellent. Filed Oct. 12, 1944 by Block Drug Co., Jersey City, N. J. Claims use since Oct. 9, 1944.

Trade Marks Granted

409,811. Skin cleanser. Filed by National Oil Products Co., Harrison, N. J., Mar. 4, 1944. Serial No. 467,979. Published Aug. 15, 1944. Class 4.

409,952. Soaps. Filed by Fitzpatrick Bros., Chicago, May 19, 1944. Serial No. 470,412. Published Aug. 22, 1944. Class 4.

409,968. Furniture and floor polish. Filed by Chalette, New York, May 27, 1944. Serial No. 470,871. Published Aug. 15, 1944. Class 6.

410,040. Soap. Filed by Stix, Baer and Fuller Co., St. Louis, June 28, 1943. Serial No. 461,721. Published Sept. 21, 1943. Class 4.

410,048. Detergent preparation. Filed by Physicians & Hospitals Supply Co., Minneapolis, Dec. 6, 1943. Serial No. 465,565. Published Aug. 29, 1944. Class 4.

410,073. Insecticide and fungicide. Filed by Central Chemical Corp., Hagerstown, Md., Apr. 3, 1944. Serial No. 468,951. Published June 27, 1944. Class 6.

410,124. Shampoo. Filed by Procter & Gamble Co., Cincinnati, June 3, 1944. Serial No. 470,895. Published Aug. 22, 1944. Class 6.

410,193. Petroleum wax. Filed by Union Oil Co. of California, Los Angeles, Dec. 27, 1943. Serial No. 466,112. Published Aug. 29, 1944. Class 15.

410,280. Tarnish remover and glasswear cleaner. Filed by Arnel Products, Chicago, May 7, 1943. Serial No. 460,478. Published Sept. 5, 1944. Class 4.

410,282. Combined chemical cleanser and soap in powdered form. Filed by Acme Chemical Co., Milwaukee, Oct. 4, 1943. Serial No. 463,860. Published Sept. 5, 1944. Class 4.

410,288. Detergent preparation. Filed by Physicians and Hospitals Supply Co., Minneapolis, Dec. 6, 1943. Serial No. 465,562. Published Sept. 5, 1944. Class 4.

410,291. Cleaning compounds for miscellaneous household and industrial uses. Filed by Turco Products, Inc., Los Angeles, Dec. 6, 1943. Serial No. 465,591. Published Sept. 5, 1944. Class 4.

410,313. Hand cleaner. Filed by Gusler Products Co., Ft. Sumner, N. Mex., Apr. 12, 1944. Serial No. 469,256. Published Sept. 12, 1944. Class 4.

410,443. Gold and silver polish. Filed by Trident Mfg. Co., New York, July 13, 1943. Serial No. 462,044. Published Sept. 19, 1944. Class 4.

410,444. Cleansing and polishing preparation for furniture. Filed by Trident Mfg. Co., New York, July 13, 1943. Serial No. 462,045. Published Sept. 19, 1944. Class 16.

410,445. Glass cleaner. Filed by Trident Mfg. Co., New York, July 13, 1943. Serial No. 462,046. Published Sept. 19, 1944. Class 4.

410,461. Fabric, rug and upholstery cleaner. Filed by J N T Mfg. Co., New York, Dec. 29, 1943. Serial No. 466,165. Published Sept. 19, 1944. Class 4.

410,465. Cleaning and polishing compound for floors, automobiles, etc. Filed by F. W. Boyde Co., Philadelphia, Feb. 3, 1944. Serial No. 467,121. Published Sept. 12, 1944. Class 16.

410,469. Detergent preparation in powder form. Filed by Tricosal Co., San Francisco, Mar. 13, 1944. Serial No. 468,264. Published Sept. 19, 1944. Class 4.

410,473. Chemical composition for mildewproofing materials. Filed by Roxalin Flexible Finishes, Inc., Elizabeth, N. J., Apr. 4, 1944. Serial No. 469,021. Published Sept. 12, 1944. Class 6.

410,486. Denture cleaner. Filed by Sam Amenta Specialties, Chicago, May 15, 1944. Serial No. 470,253. Published Sept. 19, 1944. Class 4.

410,500. Toilet soap in liquid form. Filed by Antiseptol Co., Chicago, June 3, 1944. Serial No. 470,876. Published Sept. 19, 1944. Class 4.

Cut Soap Oil Quotas

QUOTAS of fats and oils which soap makers may use for the first quarter of 1945 have been reduced by a new amendment to WFO-42b, issued January 31 by the War Food Administration. The quota of fats and oils permitted in the manufacture of packaged and bar soaps has been cut back from 90 to 85 per cent of 1940-41 base period. On bulk soaps the cut is from 110 per cent to 90 per cent. However it is general trade opinion that this latter reduction is not as severe as it appears, since but few producers are believed to have been operating recently at the 110 per cent rate. **BOTH REDUCTIONS ARE RETROACTIVE TO JANUARY 1**, since fat and oil quotas are figured on a quarterly basis.

Another feature of the new amendment is that it cancels the privilege formerly given to users of domestic vegetable oil foots and their derivatives of counting them at 50 per cent rather than 100 per cent for quota purposes. This provision of the new amendment is not retroactive, however, the effective date of the change being January 31.

SOLVAY*

...KEYED TO TODAY AND TOMORROW!

PART-PLASTIC SHELLS— Many a shell going the Axis-way is fired by a fuse capped with plastic. Instead of traditional brass cap, plastic saves metal and machine tooling.

PLASTICS IN THE HOME— From furniture to carpeting to house construction . . . plastics will be an adaptable material for thousands of uses in the postwar world.

Today . . . Solvay Alkalies and related products are vital materials used in the manufacture of plastics. These alkalies of high uniformity and purity are the standards by which product quality is assured. Established in 1881, Solvay serves America's leading industries.

Tomorrow . . . Solvay's vast resources, facilities, and experience will help speed progress in the field of plastics. Supplying always quality alkalies, Solvay will also continue to be a primary technical source of information on alkalies for the guidance of all industry.

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

**The Solvay Process Company employs salt, limestone and ammonia to make Soda Ash, from which basic material Caustic Soda and other alkalies are derived.*

SODA ASH • CAUSTIC SODA
AMMONIUM CHLORIDE • CAUSTIC POTASH
MODIFIED SODAS • AMMONIUM BICARBONATE
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POTASSIUM CARBONATE

SOLVAY SALES CORPORATION

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RAW MATERIAL MARKETS

As of Jan. 30, 1945

GRADUALLY, detailed information is being released as to the nature and extent of the threatened fats and oils shortage for the coming year. And the more information that is released, the shorter the supply of oils and fats seems to become. Originally (all during the fall and early winter months), indications were that a 1945 domestic fats and oils crop of 10 billion pounds would be produced. The 1944 fats and oils figure was 11.2 billion pounds. Now, the 1945 figure is being revised further and still downward.

Smaller Pig Crop Seen

Based on the December crop production summary and the Pig Crop Report, the Department of Agriculture now says the production of fats and oils in the current crop marketing year will be smaller than was indicated earlier. In addition to a 29 per cent reduction in the 1944 pig crop, there will be a decreased yield of lard per hog as the result of a lighter trim of fat. Production of lard and rendered pork fat in the year beginning October 1, will be at least one billion pounds less than the record output of 3,460 million pounds in 1943-44, according to the *Fats and Oils Situation*, a U. S. Department of Agriculture publication. This condition is further simplified by a Jan. 28 report from Chicago that receipts of hogs at leading markets were far below trade requirements and that the products could be sold faster than they could be made. Hogs were said to be much lighter in weight than they were a year ago, the report stated, which added that the result was a decrease in the output of lard. Government buying was said to continue to absorb much of the lard, which is not up to combined demand, and no accumulation of supplies except for government lend-lease purposes is expected for some time.

Edible Increase Cut

Previous estimates of the extent of the increase in the output of domestic edible oils—cottonseed, soybean, corn and peanut—have recently been revised downward by the Department of Agriculture. A November estimate of a three billion pound edible oil production in 1945 was reduced in December to 2.9 billion pounds. This represents a slight increase over the 2.8 billion pounds produced last season.

Imports May be Down

No outside aid from imports is expected that will enable us to reduce the deficit created by a reduction

FATTY ACIDS **UNITOL** ROSIN ACIDS

The Refined Tall Oil—

USED BY MANY SOAP PRODUCERS AS A ROSIN REPLACEMENT AND SUPPLEMENTARY STOCK

UNITOL SAPONIFIES MORE RAPIDLY THAN OTHER FATS AND OILS USUALLY EMPLOYED IN HARD SOAP FORMULATIONS

UNITOL ACCELERATES THE SAPONIFICATION OF OTHER FATS AND OILS IN SOAP FORMULATIONS

UNITOL IS ADVANTAGEOUSLY USED IN COMBINATION WITH OTHER FATS AND OILS IN THE PRODUCTION OF LIQUID SOAPS AND GELS

UNITOL HAS REMARKABLE DETERGENT PROPERTIES VALUABLE FOR DEGREASING SOLVENTS AND DISINFECTANT SOAP COMPOUNDS, ETC.

SAMPLE AND ANALYSIS WILL BE SUPPLIED UPON REQUEST

UNION BAG & PAPER CORPORATION

By-Products Dept.

2164-66 WOOLWORTH BUILDING, NEW YORK, N. Y.

TALK about Lanolin to the average drug store customer, and what's the reaction? SPLENDID!!

While most folks *believe* Lanolin adds something to a product, our researchers can prove that the use of Nimco Brand Lanolin will result in a *better* product . . . a product with a talking point . . . with extra sales appeal.

If you haven't studied the potent possibilities of product improvement available through the use of Nimco Brand Lanolin, this is the time to begin your experiments.

The facilities and the know-how that have made Malmstrom America's Largest Supplier of Lanolin and Degras are available to you, together with samples, should you prefer to conduct your own tests.

America's No. 1 Choice Because It's 5 WAYS BETTER

MALMSTROM NIMCO BRAND LANOLIN

1. LOWEST *ODOR* VOLUME
2. GREATER *UNIFORMITY*
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America's Largest Suppliers of { **LANOLIN** • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical
DEGRAS • Neutral and Common • **WOOL GREASES**

147 LOMBARDY STREET • BROOKLYN, NEW YORK

in the size of the domestic crop of fats and oils. As a matter of fact, our imports in 1945 may drop below those of 1944, the Department of Agriculture says. Talk of supplies coming in soon from Pacific islands recaptured from the Japanese is held to be without foundation. The military out there wants to win the war first. Since flaxseed crops in the various countries from which we import determine whether or not we will surpass last year's imports of fats and oils, the picture isn't too bright for larger imports in 1945. The largest producer, Argentina, has been suffering from an acute drought situation and generally adverse crop conditions, all of which points to a reduced exportable flaxseed crop.

The stocks held in the U. S. recently were said to be about 400 million pounds larger than in the previous year, but this is largely offset by a continuing strong demand for oils and fats and a greatly reduced domestic production and possible import reduction.

One other factor in the oils and fats picture, salvage of waste household fats, which has produced about 10 per cent of the oils and fats used in soap making may also be reduced because of the smaller amount of meat available to the housewife. To offset this reduction, greater effort to get waste household fats from those sections contributing most lightly to the salvage campaign is being put forth.

Seek French Aromatics

A move to relieve the perfuming materials situation by importing oils from France was announced during the past month by the Foreign Economic Administration. The FEA invited importers to enter into contract with the United States Commercial Co. for shipments from France of essential oils, perfumes, etc. Contracts with the U. S. Commercial Co., it was said, would remain in effect until private trade between the two countries could be restored. A similar arrangement was successfully worked out between private importers and government agencies for the purchase and import of Italian lemon and bergamot oils. The arrangement for the U. S. Commercial Co. to purchase French oils for American importers is said to have come about as a result of requests on the part of the essential oil industry, which cannot send its own representatives to France at this time. No essential oils have come in from France since the beginning of the war. At about the same time as the announcement of the FEA's invitation to importers to enter into contract for the purchase of French oils, a story was published indicating that there were few French oils available, and those that were available would command prices considerably in excess of our ceiling prices. How this situation could be worked out was not revealed.

Reports of the extreme scarcity of hydroxycitronellal, amyl cinnamic aldehyde and phenyl ethyl alcohol were confirmed by trade sources. Sicilian bergamot was quoted at $7.25 a pound, while quotations on the much scarcer Brazilian product ran to $12 and $14.

NUCHAR

50 BILLION PARTICLES— CAN'T BE WRONG

. . . and there are 50 billion particles of Active Carbon in less than half a gram of Nuchar! These particles have the ability to remove unwanted tastes, odors and colors from many products.

An increasing number of chemical manufacturers are discovering daily how indispensable Nuchar is for stepping up purification—by adsorption, without adding elaborate distillation, crystallization or sublimation equipment.

After gruelling tests in actual operation, the use of Nuchar now represents standard practice in a number of industries, such as: Chemicals, Drugs and Pharmaceuticals, Food Products, Industrial Water, Off-Grade Products, Oils, Fats, Waxes, Greases, Trade Wastes and Water Purification.

Add adsorption to your purification process and you'll accelerate present production without additional equipment.

For your convenience, stocks of Nuchar Active Carbon are carried at strategic points throughout the United States.

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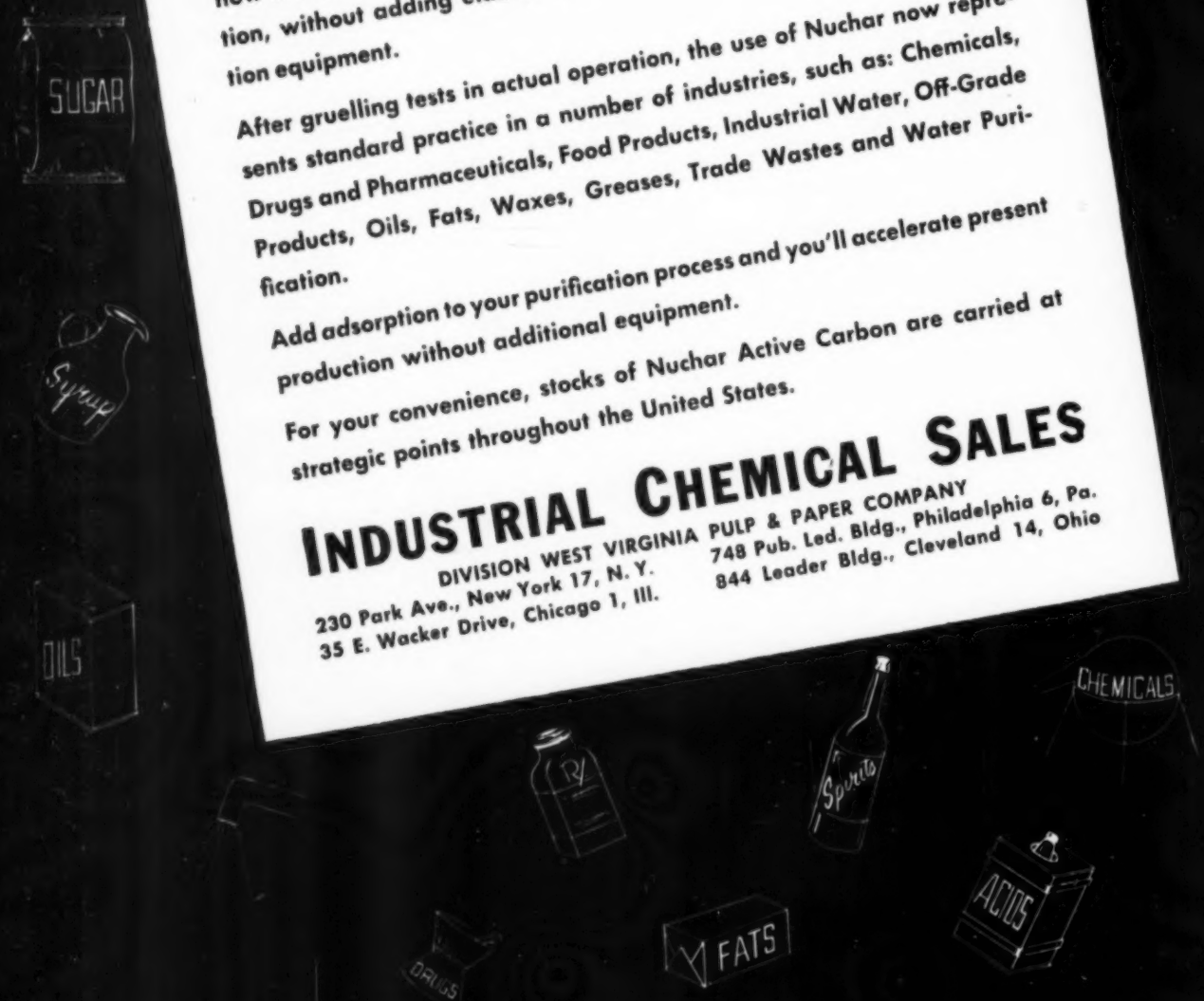


PRODUCTION SECTION

FATTY ACIDS in Post-war Soaps

by Dale Stingley

Armour & Company

DURING the years immediately preceding the present war, a marked trend was noticeable in the soap industry toward an increased use of fatty acids in the manufacture of soap. Through necessity this trend was greatly accelerated during the early years of the war. The need for glycerine prompted restrictions prohibiting the use of fats and oils in the soap kettles unless glycerine were recovered and conservation measures restricted the glycerine content of potash soap, thereby making it necessary to use fatty acids. Also the shortage of olive oil foots brought increased demands for fatty acids for textile soaps and the need to reserve our supplies of soybean, corn, cottonseed and peanut oils for edible purposes gave further impetus to the use of fatty acids.

The net result of these war-time exigencies has been to focus the attention of soap producers on fatty acids. Many of these producers to whom fatty acids were unknown in pre-war days have discovered to their surprise that the war regulations which they feared would force them out of business have actually directed them to more satisfactory soap-making materials. This acquaintanceship with fatty acids through necessity has dispelled the conservative prejudices of the soap industry against fatty acids to the extent that many producers now use fatty acids wholly from preference and would rebel at going back to their previous raw materials

The effect of war-time practices on post-war operations seems to be quite clearly indicated. The soap industry has discovered the advantages of fatty acids and substantially more fatty acids will be used in the post-war period. Such a shift is a normal result of the necessity during war-time of turning to new materials, and generally, as is the case with fatty acids, the new material finds a permanent place.

Possibly we should say that it is not strictly speaking true to refer to fatty acids as new materials, although they have been considered such by soap makers who have had no previous experience with them; and in many ways modern fatty acids are new materials or at least greatly improved materials due to the rapid technological advances in the fatty acid industry prior to the war.

The position of fatty acids in the overall soap fat picture should not be misunderstood. In round figures the soap industry consumes about two billion pounds of fats and oils annually. Of this quantity, about 100 million pounds were fatty acids prior to the war. This includes red oil, stearic acid, and mixed fatty acids, used mainly for textile soaps, liquid and paste potash soaps, shaving cream and soaps, shampoo and dry cleaning soaps. While the quantity of fatty acids used represented only 5 per cent of the total soap fats, it must be remembered that in the class of soaps where fatty acids were used, the percentage was quite substantial. No figures are available on the present consumption of fatty acids in soap, but based on the Bureau of the Census monthly reports of production and consumption of fatty acids, a conservative estimate of twice the pre-war figure is not out of line.

What quantity of fatty acids the soap industry will use in the immediate post-war period will depend on many factors. Probably it will show some decline from the peak war use with a rapid recovery and steady increase to several times pre-war consumption as the advantages of fatty acids are fully realized and as the production capacity for fatty acids is expanded to meet the demand.

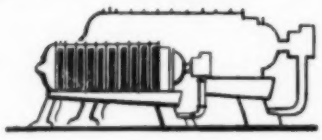
This optimistic outlook on the post-war future of fatty acids in the soap industry is based entirely on the proven advantages of fatty acids for certain types of soap and soap plants. Fatty acids produce quality products, allow flexible operation of plant equipment, and last but not least permit operating economies not possible with other raw materials.

Since fatty acids are generally saponified directly in crutchers and not boiled in the soap kettle, the quality of the soap produced is entirely dependent on the quality of raw materials used. Fatty acids are outstanding for this type of processing

Special Filtrol's *extra* decolorizing power gives you these *added* advantages:

1. When Special Filtrol is specified—you buy less, store less, and handle less treating material.

2. When Special Filtrol is specified—you use fewer pounds to decolorize and purify more gallons of regular or "hard-to-bleach" oils.



3. When Special Filtrol is specified—you cut labor costs because you increase your present press capacity.

4. When Special Filtrol is specified you get more oil per pound of treating material because of minimum press cake soakage.

5. When Special Filtrol is specified you insure better sanitary control because Special Filtrol is sterilized and reaches you in sanitary bags.

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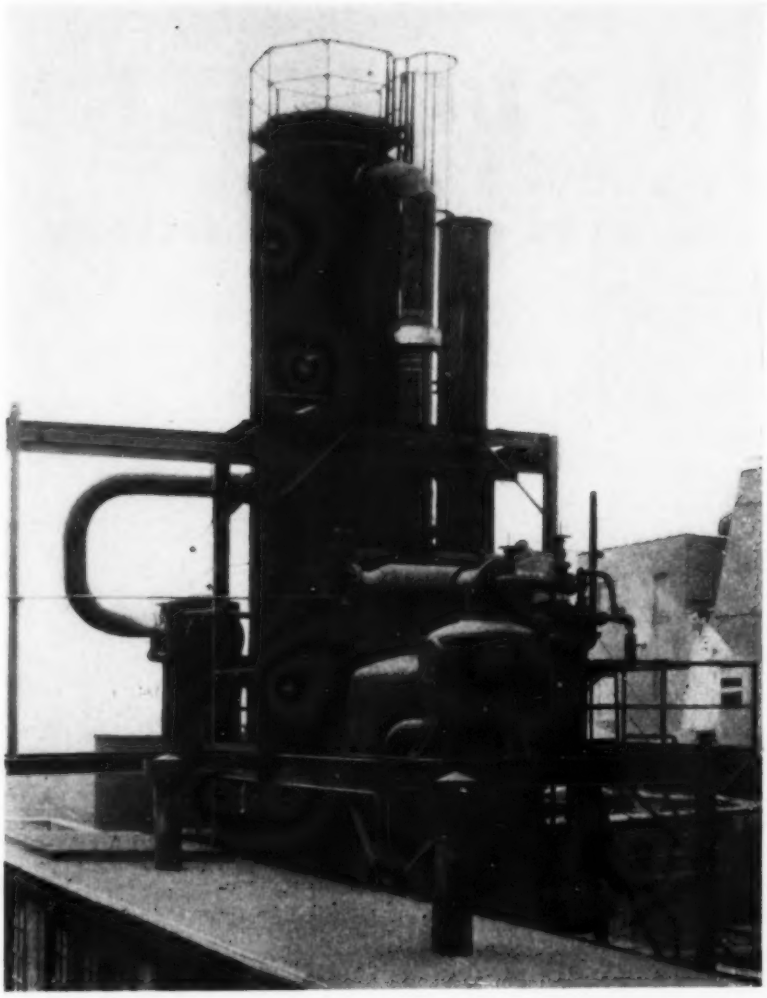


In the post-war period an increasing tonnage of soap raw materials will in all probability come from the factory rather than from the farm or plantation. Photo courtesy Armour & Co. shows a fractionating column in their fatty acid plant.

since the major obstacle to the delivery of quality fatty acid in the past, namely, the lack of suitable shipping containers, has been overcome by the use of specially coated drums and aluminum tank cars.

With the container problem solved, the entire soap industry can now avail itself of the natural advantages of fatty acids. Fatty acids are more uniform than natural oils, since they are a manufactured product. They are simpler to handle, easier to saponify, saponify more completely, and are readily saponifiable with organic alkalies, with the result that superior soap products of uniform quality may be produced with a minimum of chemical control.

In plain dollars and cents language fatty acids are economical. Since they saponify in a fraction of the time required for natural oils, crutcher turnover is speeded up, giving increased capacity without additional equipment, thus reducing both labor and overhead unit costs. Since fatty acids contain no glycerine, the yield of anhydrous soap is from 4 to 8 per cent higher than from the corresponding neutral fat which, on a comparable per pound cost basis, shows a substantial raw material saving in favor of fatty acids. A further saving which is particularly important to the small operator is that fatty acids as received require no further processing or refining, thus eliminating the need for a sizable capital outlay for the necessary raw material processing equipment, such as acid wash tanks, refining tanks, bleach tanks and filter presses.

These are advantages that all soap producers, large and small alike, may benefit from. The apparent trend in the post-war period therefore would seem to be toward an increased use of fatty acids by all soap producers.

◆

Hardening Fats

Development of processes for hardening fats is described with special attention to selective hardening. Preliminary and after-purification of the fats are important in facilitating the hardening, prolonging the life of the catalyst, removing odors and catalyst residues, etc. Heating fatty acids with caustic potash solution until no more hydrogen is evolved gives white to light yellow, strongly alkaline soaps similar to coconut-oil soap. With this method fish oils can be used as starting material. In a similar method for decomposing unsaturated acids, hydrated, liquid train-oil soaps are treated with a current of steam in an autoclave at 200° C. This yields fatty acids having iodine numbers corresponding to those of the oleic acid series.

The advantage of the caustic potash treatment is the possibility of decomposing high-molecular and highly unsaturated C_{20}-C_{22} chains into simple unsaturated C_{14} to C_{18} chains or to saturated C_{10} to C_{14} chains, and the use of fish-oil products in place of palm kernel and coconut oils. The hydrogen produced during these reactions can be subsequently used for hydrogenation. The hardening process makes it possible to produce fats of greater or less hardness without changing the length of the carbon chain. K. Lindner. *Fett und Seifen* 50, 82-7; through Chem. Abs.

◆

Emulsifying Agent

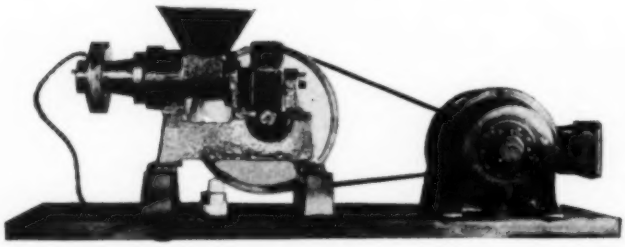
Anhydrous alkanolamine HCl is condensed under vacuum with oleic acid chloride or other similar chloride containing 10-22 carbon atoms, to form the ester of the acid and alkanolamine HCl. The ester is an emulsifying agent suitable for textile treatment. J. W. Johnson, to United Shoe Machinery Corp. U. S. Patent No. 2,354,320.

HOUCHIN PLODDERS

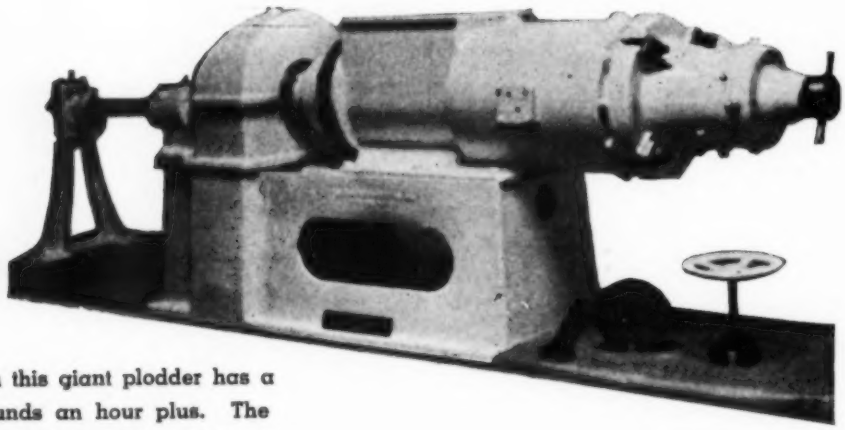
are standing up under strenuous war-time production conditions

— Because Houchin Soap Machines are built for many years of efficient service in every kind of soap manufacture.

Electric heaters to heat front of plodder give more uniform heating than gas, steam or lamp, without blistering soap. Furnished with all plodders.



For making sample cakes of soap by soap, perfume and color manufacturers. This small plodder has a 2½ inch bronze screw, plated front head, screen and plate holder and an electric heater.



For heavy production this giant plodder has a capacity of 3,000 pounds an hour plus. The screw diameter is 14 inches. Other sizes 4 inches to 12 inches screw diameter.

HOUCHIN

MACHINERY COMPANY, Inc.

6th and Van Winkle Aves. Hawthorne, N. J.

PRODUCTION *Clinic*

By DR. E. G. THOMSSEN, PH.D.

IN visiting plants from time to time, an error frequently observed is that of selecting machinery and equipment with too great a capacity. Sometimes this is reflected in one unit of an automatic packaging line being out of step with the rest of the equipment. In other cases the whole equipment is oversized or of greater capacity than necessary. Then, again, the automatic filling lines are occasionally of larger type than required to handle the output of the processing equipment. None of these errors are unusual. Conditions like these are usually the result of poor planning, though at times they are caused by over zealousness, optimism, ego, or being oversold on a certain piece of machinery.

A penalty for conditions like these is the extravagance of labor. All automatic equipment is automatic only as long as there is someone to run it or watch it run. On most straight line production lines it takes quite a number of operators. There was a time when it was possible to run automatic equipment spasmodically and lay help off when things slackened, but that is not the case now and it may never occur again. When an automatic line is shut down and there is nothing for the operators to do, it does not take much time to run up a big labor bill, be it due to a break-down or shortage of material. Every attempt, then, should be made to avoid shut-downs. It is necessary when the planning of

any new equipment of this kind is contemplated to consider not only performance and rapid speed for putting up, but also the processing capacity to furnish the machine with material. Sometimes it is better to use a slower speed line to run constantly or, when possible, a line that can be varied in speed.

Automatic packaging machinery manufacturers usually consider the problem of taking a product after it is processed and then satisfactorily filling and packaging it. Their job is to guarantee to satisfactorily fill and package so many units per minute or hour. They can hardly be censured if the required amount of the product is not delivered by the processing end of the installation. For this reason, it is just as necessary to plan to make a product in sufficient quantity as it is to have the packaging capacity. It is a better policy to have greater capacity on the processing end than it is to have too great a packaging speed.

Those, then, who are planning automatic lines should not only carefully consider the automatic packaging equipment but give even more careful attention to proper processing installations. In many cases where two or more products of the same type are made in a plant, it is a wise policy to consider also flexibility of units, as most manufacturers do not keep full automatic machinery and equipment busy every day of the year. Through constructive planning of the use of flexible equipment, the same processing machinery and putting up equipment can be used more continuously with proper planning of the processing machinery, change parts for packaging machinery and other devices along this line. All round consideration is valuable in planning any installations of this type.

Colloid Mill and Liquid Mixer

Eppenbach, Inc., Long Island City 1, New York, have originated various types of colloid mills which, by the aid of high pressure, force liquified materials through practically closed, grinding and homogenizing gaps. This imparts to these liquefied materials some unusual, improved characteristics. Such processes as the production of emulsions and creams, reduction of color particles, reduction of glands for serums and the capsulizing of many particles in the cosmetic, liquid wax, insecticide, plastics and paint industries are carried out by the use of Eppenbach colloid mills. These mills afford low initial cost, low cost of maintenance, simplicity of design and simplicity of operation. They are made in both laboratory and production sizes, in sixteen types, using various metal alloys and consuming from one-quarter up to twenty-five horsepower.

This company also features their "Homo Mixer" for liquids, said to be built upon an entirely new principle. The mixer does not require a high head for efficient mixing action.

Check these ADVANTAGES *of the*

PROCTOR
FLAKE SOAP SYSTEM

PERFECT FLAKES

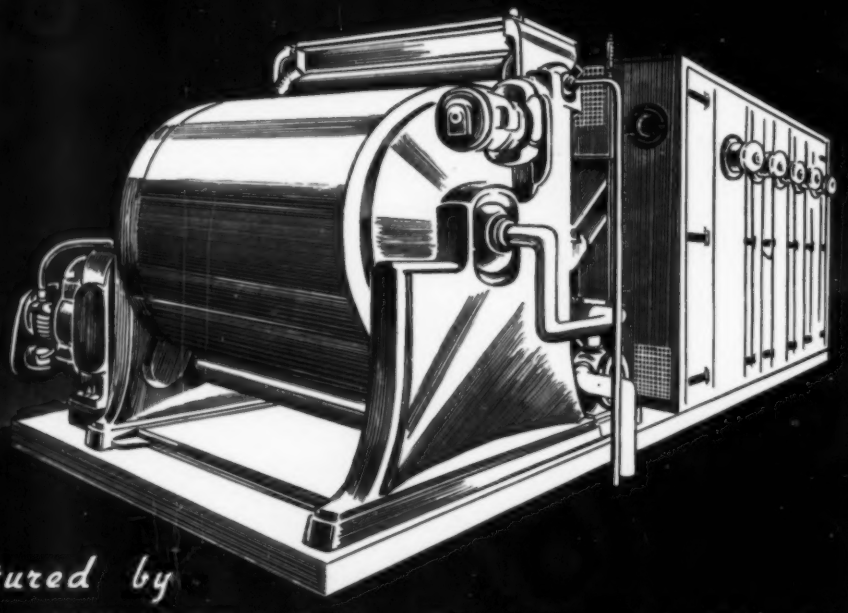
SPEEDY DRYING

GREATER UNIFORMITY

REDUCED COSTS

PRECISE CONTROL

Take a few minutes to check over what you consider the prime requirements for any soap drying system to meet the demands of your plant. First on your list will probably be "a machine that produces perfect flakes". This will be followed by "a machine that dries flakes uniformly". You know the importance of having flakes of unvarying thickness that are uniformly dried, for subsequent processing and the ultimate quality of your finished product. Your next requirements would most likely be all mechanical features which help you obtain the kind of flakes you need—"speedy drying" and "absolute control". Of course, you want a system that offers all of these advantages at the "lowest possible cost". Those are stiff requirements you've set up. In fact, so stiff, that we don't know of any equipment other than the Proctor Flake Soap System which comes even close to meeting your needs. For years the Proctor Flake Soap System has set the standard for producing perfect flakes, uniformly and speedily dried, under accurately controlled conditions, at costs that are incredibly low. Today's Proctor System embodies all of the latest improvements possible to help you achieve the kind of results that you require. Write for details today!



manufactured by

PROCTOR & SCHWARTZ • INC • PHILADELPHIA 20, PA.

It is easily portable except for the very large sizes and batches of liquid. From two to two thousand gallons may be mixed without incorporating air bubbles.

Packaging of Dry Products

Stokes & Smith Company, Philadelphia 24, Pa., have sent us three of their recent catalogues. We have known their equipment intimately for about twenty years and the company as one of the leaders in the packaging machinery field. They specialize in dry products filling machinery and make a very full line of dry filling machinery, carton filling and sealing machines, tight wrappers, envelope sealers and the "Transwrap Machine," as well as other equipment. It would be interesting to know how many packages have been filled with S. & S. equipment during the war years. We are sure the quantity would be much bigger than the war debt is in dollars.

Stokes & Smith emphasize that they have the right machine for the right job. When it comes to filling powders, granular products and pastes in speeds from fifteen to one hundred and twenty per minute, in weights from a fraction of an ounce up to five pounds or more, and into cans, cannisters, cartons, envelopes, cellophane or other heat sealing materials, their equipment does the job efficiently. The catalogues they sent us have the big advantage of being terse in reading matter and provide many illustrations. It does not take a busy person very long to get a good idea of the operation of their machines with the minimum amount of attention. Their "Universal Fillers" and "Transwrap Machine" have become standard equipment with a large number of the largest producers of packaged goods in this country. Anyone having a problem involving the filling of quantities up to ten pounds per package of dry or paste products, should consider S. & S. as a potential supplier of the filling equipment.

Powder Blending Equipment

Sprout, Waldron & Company, of Muncy, Pa., have sent us a mimeographed sheet and photograph releasing recent information regarding intimate blending equipment which has just passed beyond the experimental stage. This apparatus is applicable to mixtures of fine powders of 100 mesh or more, or of fine powders blended with liquids to give a free flowing product, possessing a homogeneity beyond the usual mixing methods. The mixing is carried out in three different stages. First the material is fed through a sifter inlet to eliminate any lumpiness and premixing in the usual manner is carried out. If liquids are to be incorporated, these are sprayed into the powders during the premixing operation. Second, the premix is passed slowly through a high speed disc, blended for a thorough agitation and to insure complete dispersal of any small, persistent lumps. Third, the product is dropped into an agitated aerator mixer which maintains the free flowing properties. This mixer also suffices as a storage bin. This equipment is being successfully used for the making of insecticide dust at the rate of 2500 pounds per hour with a 15 H. P. motor. It is applicable to a wide variety of materials. Sprout, Waldron & Company are well known in the fields we serve because of their contribution since 1866 to grinding, crushing, mixing, conveyor, power transmitting and other types of machinery which they build in large volume.

Mixer Improvement

Struthers, Wells, Inc., of Warren, Pa., make a long line of machinery like mixing equipment, rotary driers, heat exchangers, coolers, autoclaves, evaporators, soap crutchers, crystallizers, stills and steel welded equipment. We recently received their catalogue describing a newly developed radial propeller agitator as a result of some comments we made a few months ago regarding improvements of mixers. These agitators which will mix any liquid that is not too viscous, are available in many commercial sizes and may be had in various styles for different methods of mounting. There are five features incorporated in this agitator which comprise the advantages of and are said to eliminate the disadvantages of both the turbine and conventional propeller agitator. These advantages are, provision of the same uniform flow throughout the vessel as with a turbine agitator, mounting on a vertical shaft so no seals and stuffing boxes operate in contact with the contents of the vessel, having a high peripheral speed and blade cutting action like high speed propellers, simplifying the drive by providing RPM's in the range of the propeller type agitator, making it simple to clean, remove and replace and lastly providing flexibility in operation for wide applications. The advantages and the economies afforded by the use of this agitator will undoubtedly appeal to interested persons.

———♦———

Solvent Scouring of Wool

Since the continuous solvent method of scouring wool was invented in 1936, application of this method has been watched with interest. Use of seven of these special-type machines in different mills has proved their efficiency and economy.

For example, in the production of Army OD blankets, the cloth from the loom is dry-cleaned and carbonized all in one continuous operation, after which it is fulled with water and dried, ready for napping, shearing and final inspection. Dry milling has been unnecessary and production has increased from 20 to 30 per cent in the manufacture of this particular fabric. Besides increasing production, the fabric has been loftier and clearer than it was possible to make by any other method.

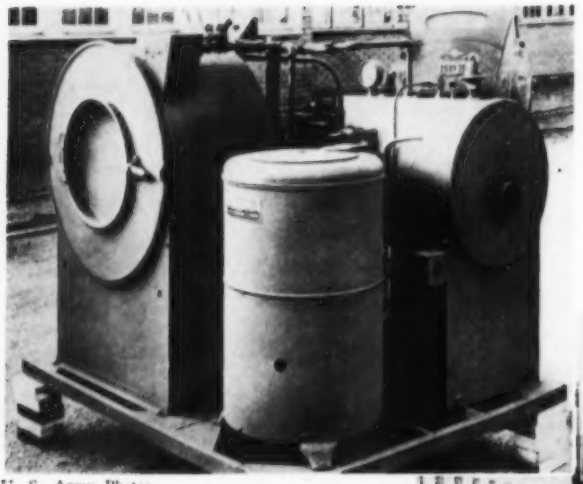
Stabilized trichloroethylene has been used as the solvent for this operation at a cost of about 0.3 cents per pound of material handled. *Textile World* 94, No. 10, 94-5 (1944).

———♦———

Refractometric Analysis

The composition of a binary mixture of fats can be calculated from values for the molecular refraction of the components and the mixture. For a ternary mixture it is necessary to have a neutralization number. A. Paleni. *Ann. chim. applicata* 33, 23-36; through Chem. Abs.

Portable Laundries and Shower Baths for the Fighting Front



U. S. Army Photos

Above: A small detachment laundry, one of two units of which is shown, has a capacity of 40 pounds of washed and dried clothes an hour. It can be operated by one man.

THE satisfaction of a hot shower and change of clean clothing for fighting men in combat zones far from civilization, whether in the jungle or some ravaged spot on the continent of Europe, is practically guaranteed by some new "service" equipment developed by the Quartermaster Corps and announced recently by the War Department, Washington.

Most recently developed are a mobile laundry, a small detachment laundry, a clothing repair unit, a textile repair unit and a mobile bath unit. With the exception of the small detachment laundry, which is mounted on two skids, the other units are contained on light, two wheel trailers. They are mobile and can be flown by transport plane or glider wherever required. All of the new types of mobile equipment have been standardized and are now in production. Deliveries are expected to begin in April, 1945. In accompanying photographs on this page we show: the mobile laundry unit, a small detachment laundry and the mobile bath unit.

The mobile laundry unit is mounted on two trailers, each six feet wide by nine feet long. In addition to the trailer shown on this page, there is another that carries a drying tumbler, air heater, tool box, a gasoline tank and 250 feet of rubber covered hose.

Above: One of two trailers of the mobile laundry unit carrying the washer, extractor, water heater, drain bin, auxiliary electric pump and gasoline tank. The complete unit is mounted on two trailers, each weighing 4500 lbs., including equipment. When wheels are removed from the trailers the two units can be carried in an airplane or a glider. Capacity: 120 lbs. per hour.

Below: Mobile bath unit has 24 shower heads and is mounted on a two wheel trailer, which is 11 feet long. Water is drawn from a nearby stream and forced through the boiler by a gasoline-driven motor. The boiler has a capacity of 92 gallons of water, and the fuel oil tanks carry 70 gallons. The pump delivers two gallons of hot water per minute to each of the shower heads.

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Prepared Monthly by U. S. Industrial Chemicals, Inc.

U.S.I. CHEMICAL NEWS

February ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Millions of Yards of Treated Duck Produced for Army

Expanded Tentage Program Takes Large Quantities of U.S.I. Resin

Early in the war, the Army Quartermaster Corps adopted a new and greatly improved type of treated canvas which is now adding much to the protection of army personnel and equipment against the elements, as well as the enemy. The program of development and evaluation has been long and arduous, requiring the testing of innumerable samples by laboratory methods and by exposure for long periods to varying climatic conditions. The results have been remarkable, and the properties towards which the Quartermaster Corps aimed have, in a large measure, been achieved.

Canvas, treated by this new method, has been greatly improved in durability by reducing the deleterious effects of sun and moisture and by incorporation of mildew proofing agents. The canvas is also practically impervious to rain. These characteristics are highly desirable when we consider that our armies are stationed throughout the world, in all types of climate.

Fire Resistance

The new treatment also imparts resistance to fire. The fabric is not completely fire-proof, but the compound employed effectively retards free burning. Fire hazard is thereby minimized as a further protection to personnel and equipment.

Camouflaging of tentage and tarpaulins is also vital. This is done by incorporating durable, high-strength coloring pigments in the coating compound, and thus imparting the desired color to the treated fabric.

The army is, today, purchasing enormous quantities of cotton duck and other fabrics,

(Continued on next page)

Treated Sheep Skins Resemble Finest Furs

Using existing machinery common in the fur industry, lamb and sheep pelts may be treated so as to resemble beaver, nutria, seal, or other similar furs according to claims made in a recent patent.

Though variants of the process are given, essentially it consists of applying to the skin a solution of nitric acid and denatured alcohol. After drying, the skins are passed through an "electrifying" machine in which they are heated, brushed, and combed. The pelts emerge with straight, lustrous, yellow filaments which will not re-kink upon subsequent wetting.

The final step is dying to the color native to the fur to be imitated.

Insoluble Alkyd Fractions Produce Superior Films

The results of a series of tests seem to demonstrate that films formed from alcohol-insoluble fractions of alkyd resins dry more rapidly, are harder and at the same time less brittle than the original alkyds.

Lower alcohols, such as ethanol, were found to be superior as selective solvents. The two extraction methods described both depend upon agitation of the resin in a fluid state with alcohol, which extracts the undesirable fractions. In both, the desired fraction was contained in the residue after the extract-containing solvent had been removed by decanting or other method.

Insecticide Improvement

It is reported that insecticides high in hexachloro ethane, such as those used for killing moths and their larva, can be increased in effectiveness by the addition of small amounts of para-chloro bromo benzene, chloro napthalene or para-dichloro-benzene.

Official U. S. Marine Corps photo

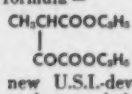
Ducking into a duck-covered foxhole. Colored pigments, incorporated with the resins and other ingredients in the duck-treating compound, provided the camouflage which baffled Jap airmen.

Valuable Uses Seen For New Intermediate Developed by U.S.I.

Ethyl *a*-Oxalpropionate Offered for Organic Synthesis Research

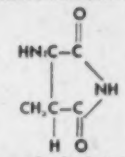
Ethyl alpha-oxalpropionate is a new U.S.I. product which affords another interesting example of the versatility of U.S.I.'s sodium ethoxide as a condensing agent. It is prepared by condensing diethyl oxalate with ethyl propionate in the presence of sodium ethoxide. It may also be synthesized from ethyl sodium oxalacetate and methyl iodide.

Alpha-oxalpropionate has the following physical characteristics: mol. wt., 202, sp. gr., 1.0977 @ 20°/20° C., refractive index, 1.433 @ 20° C., boiling point 108-109 @ 5.5 mm. Hg. abs. Color light yellow to colorless. It has the structural formula —



Like other new U.S.I.-developed Claisen condensation products, ethyl alpha-oxalpropionate appears to have many as yet unexplored uses as a starting material for organic synthesis. Some of these possibilities are suggested by the following reactions:

1. On distillation it loses carbon monoxide to give diethyl methylmalonate.
2. On heating with ammonia it forms alpha-methyl-beta-iminosuccinimide:



3. On boiling with alcoholic KOH it breaks down to propionic acid, oxalic acid, and alcohol.
4. On heating with ethyl iodide and sodium ethoxide it yields alpha-methyl-alpha-ethyl-oxalpropionic ester.

(Continued on next page)

B-Complex Vitamin Produced by Alcohol Crystallization

A recently granted patent covers new methods for producing dextro-pantothenic acid, part of the vitamin B complex, by resolving racemic pantothenic acid in to dextro pantothenic acid by fractional crystallization.

One method starts with d-l-barium pantothenate dissolved in ethanol. This solution is treated with an ethanol solution of quinine sulfate. The combined solution is freed from barium sulfate by centrifuging.

To remove the crystals of quinine salt of levo-pantotheic acid, they are precipitated by evaporating the solution and chilling. The mother liquors are then evaporated to dryness, and the residue dissolved in acetone, which separates the quinine salt, leaving dextro pantothenic acid.

The yield is about 23 per cent of the combined weight of the d-l-barium pantothenate and the quinine.

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February ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Wool-like Synthetic Made from Peanuts

Peanuts, already widely used as a source of oils for salad dressing, margarine and high-grade soap, now are used as the raw material for a new synthetic fibre. The fibre is described as being like wool in many respects, and superior in others. For instance, it will not shrink, and is immune to attack by moths.

The new fibre, named Ardil, was developed in Great Britain, and is waiting the end of the war for large production. It is a cream-colored, crimped, resilient fibre which is said to be soft and warm to the touch, and to absorb moisture as wool does.

Ardil, according to its inventor, is not intended as a substitute for wool, but as a complementary fibre, to be used in combination with other fibres to impart new qualities to fabrics. It is expected that, under quantity production, the new fibre will turn out to be less expensive than wool.

Deodorant Reported To Neutralize Acids

In a suggested formulation, acid secretions of the body react with hexamine to liberate formaldehyde, which is antiseptic and astringent. As the acid becomes neutralized, decomposition stops, thus avoiding irritation which would occur from the use of formalin alone. The formula comprises 3 parts hexamine, 40 parts denatured alcohol, and orange-flower water to make 100.

New Intermediate

(Continued from preceding page)

5. On heating with dilute H_2SO_4 it gives propionylformic acid (alpha-oxobutyric acid), alcohol, and CO_2.

6. On hydrogenation it gives diethyl alpha-hydroxy-beta-methyl-succinate, which upon further hydrogenation forms 3-methyl 1, 2-butanediol, 2-methyl 1, 4-butanediol, and alcohols and water.

7. In alcoholic solution it gives an intense red color with ferric chloride.

Limited quantities of ethyl oxalpropionate are available from U.S.I. for research.

Treated Duck

(Continued from preceding page)

treated by this new process, for tents, tarpaulins, gun covers, webbing, and for the production of many other articles.

The Quartermaster Corps has set rigid requirements which must be met by all goods supplied. The applicable specification, JQD 242, is essentially based on performance tests, although the use of certain ingredients in the treating compound is generally considered mandatory. The use of certain other ingredients which may present objections is forbidden.

Resin Used

The compounds used by various suppliers differ somewhat, but in general they are composed of combinations of chlorinated paraffin, a high-quality hard resin and a plasticizing resin pigmented with antimony oxide, calcium carbonate and coloring pigments. These ingredients are usually dispersed in a volatile solvent and the resultant compound is applied by knifing on both surfaces of the canvas, or by impregnating the fabric by immersion in a bath of the liquid compound.

U.S.I. resins are playing an important part in this tremendous program which is now taking essentially the entire capacity of duck manufacturers and is utilizing the facilities of many textile finishers.

This textile development is destined to play an important role in the post-war era and resin-treated fabrics of this, and similar types, will be widely used for the manufacture of tarpaulins, awnings, commercial tentage and similar items. The knowledge and experience gained in the flame-proofing of canvas will also be utilized in the production of flame-retardant decorative and other fabrics.

Unsaturated Triglycerides Separated by New Process

Unsaturated triglycerides alone have greater utility than the natural oils and fats in which they occur. Particularly is this true of the drying oils used in coatings.

A patent has been granted on a new and simplified process for separating the unsaturated triglycerides from the mixture of saturated and unsaturated ones.

Natural oil containing a mixture of saturated and unsaturated triglycerides is mixed with ethanol and then heated. Upon cooling, the solution separates into a solvent layer and a precipitate layer. The solvent layer contains the unsaturated triglycerides.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Priority-free aluminum paint, which is said to be improved by increased pigment and solid content, and with a slower drying rate, is offered for exterior and interior use. One coat is said to cover metal, wood or concrete. **(No. 900)**

USI

A rust dissolver, claimed to have a great affinity for ferrous oxide, and none for unoxidized metal, is on the market. The new product is slow drying, and thus has more prolonged rust-dissolving action. **(No. 901)**

USI

A vegetable-tannin replacement, completely soluble in either hot or cold water, is announced as being the first complete synthetic alternate for vegetable tannins. Leather produced with it is claimed to be the equal of natural tannin products. **(No. 902)**

USI

A photoelectric pH meter is described by its manufacturer as being valuable also as a colorimeter and turbidimeter. Meter is claimed to be accurate and to give direct readings. It is designed for operation with ordinary Pyrex test tubes. **(No. 903)**

USI

A plastic coating, which may be heat-cured to form an insoluble film, is the claim made for a new liquid resin. Among suggested uses are linings for metal food containers and as an exterior protective coating on black iron. **(No. 904)**

USI

Rubber-to-metal adhesion is said to be improved by a new priming compound. Among the uses suggested are as an ingredient in coatings and as a coating to impart acid and alkali-resistant qualities. **(No. 905)**

USI

Fluorine-resistant glass is announced. Corrosive hydrofluoric acid, that disintegrates ordinary glass, is said to have no effect on the new product. It can be drawn, sheeted, blown, ground and polished. **(No. 906)**

USI

A rate-of-flow meter, designed to operate by differential pressure and to give direct readings in gallons per minute, is announced. It is connected to the line by two tubes attached to two sides of an orifice plate. Meter can be calibrated to give full-scale reading on any differential pressure up to 10 lbs. per sq. in. **(No. 907)**

USI

A multi-purpose pump, designed to handle a wide variety of viscous materials, such as paint, lacquer, mastic caulking compounds, cement coatings, and fibrous insulating materials, is now in production. **(No. 908)**

USI

Synthetic resin seals, such as gaskets, washers and diaphragms, said to replace rubber, are being made to buyers' specifications. Among the qualities claimed are flexibility, elasticity, and resistance to abrasion and organic solvents. **(No. 909)**

USI

A slime-controlling fungicide, for use in paper manufacture, is described as being tasteless and odorless, but is offered with the warning that it needs careful handling and is not recommended for paper whose end use is food packaging. **(No. 910)**

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PRODUCTS AND PROCESSES

Phosphate Salt Mixture

An intimate mixture of phosphate salts is formed by dispersing tetrasodium pyrophosphate in a molten mass of trisodium phosphate and water. The proportion of trisodium phosphate as dodecahydrate to tetrasodium pyrophosphate as decahydrate, is at least 1:5 by weight. This mixture is solidified as discrete particles. R. J. Kepfer, to Can. Industries Ltd. Canadian Patent No. 424,494.

Soap Antioxidant

An additive to soap to prevent rancidity development consists of an organic compound containing at least one trivalent nitrogen atom and two carboxyl groups connected to the nitrogen through a short aliphatic chain. A salt, ester or hydrate of such a compound may also serve. An example is incorporation in soap of 0.01-1.0 per cent of an alkaline metal salt of ethylene diamino tetra-acetic acid. A second example is an alkaline salt of nitrilo diacetic acid. Lever Brothers & Unilever, Ltd. British Patent No. 2094.

Cleaning Composition

A cleaning composition which is noncaking contains as essential ingredients finely divided silica, a finely divided, water-soluble alkali metal phosphate, and enough finely divided calcium silicate to minimize adherence of the particles when stored in a humid atmosphere. J. K. Gunther, to Ind. Patents Corp. Canadian Patent No. 424,535.

Sulfonates from Petroleum

Products suitable for use as detergents are prepared by the reaction of nitrosyl chloride, NOCl, with an olefine-containing mixture of petroleum hydrocarbons, such as a cracked petroleum fraction. Addition products of olefine and nitrosyl chloride result. These are reacted with an alkali metal sulfite to replace chlorine with a sulfonate group. The water-soluble sulfonates produced are separated. L. J. Beckham, to The Solvay Process Co. U. S. Patent No. 2,354,359.

Water Softening Mixture

A water-softening composition contains tetrasodium pyrophosphate and an alkaline salt selected from the group consisting of sodium borate, sodium metasilicate, and disodium phosphate. The alkaline salt is in such a physical condition that it dissolves more slowly in water than the pyrophosphate. R. F. Kepfer, to Can. Industries, Ltd. Canadian Patent No. 424,493.

Cleaner for Artificial Teeth

Soap, a standard component of many dentifrices, finds similar application in the formulation of denture cleaners. A typical paste cleaner for artificial-teeth plates is intended only for this purpose and should not be used in the mouth. It contains the following:

	Parts
Calcium carbonate	400
Powdered hard white soap	120
Ammonia water	240
Glycerine	200
Oil of sassafras	40
Saccharin	0.2

Bull. Assoc. Am. Soap & Glycerine Producers, December, 1944.

Telephone Cleanser

A spray antiseptic for use on the mouthpieces of telephones is suggested as follows:

Soap, alcoholic tincture	10 parts
Alcohol	5 parts
Thymol	1 parts
Pine needle oil	to suit
Peppermint oil	to suit
Water	50 parts

A more definite antiseptic preparation may contain one of the chlorinated phenols, or some of the more active essential oils, or resorcinol, guaiacol, or some of the newer antiseptic compounds such as cetyl trimethyl ammonium bromide. However, in formulating such products it is necessary to avoid including incompatible ingredients. S. P. Jannaway. *Perfumery & Essential Oil Record* 35, 298 (1944).

Paste Metal Polish

In many metal polishes soap is the emulsifying and cleansing agent, as in the following:

	Parts
Chip soap	10
Silica dust	20
Air-floated tripoli	20
Pine oil	2
Water	48

Dissolve the soap in the hot water and add the previously mixed silica and tripoli with stirring. Add the pine oil with stirring and run the mixture while hot into suitable containers. The abrasives, silica and tripoli should be of such fineness that practically all of it will pass through a 325-mesh sieve. *Bull. Assoc. Am. Soap & Glycerine Producers*, December, 1944.

Shampoo and Dandruff Remover

A shampoo which at the same time removes dandruff contains 3-4 ounces of olive-oil soap, water, and about an ounce of eucalyptus oil. A Laroque. Canadian Patent No. 423,730.

Deodorizing Receptacle

A cylindrical device open at both ends is fitted with a clip like that of a small lampshade for attachment over a light bulb. Inside one end is a lining to serve as receptacle for deodorizing materials. This is provided with a series of openings. N. A. Glaskowsky, to Stanley Howe Products, Inc. Canadian Patent No. 424,736.

Dispensing Soap Carton

An oblong carton is so devised as to have at one corner a folding outside portion over an indented edge, for use as a curved spout to deliver the contents of the package. D. E. Marshall, to Colgate-Palmolive Peat. Canadian Patent No. 424,655.

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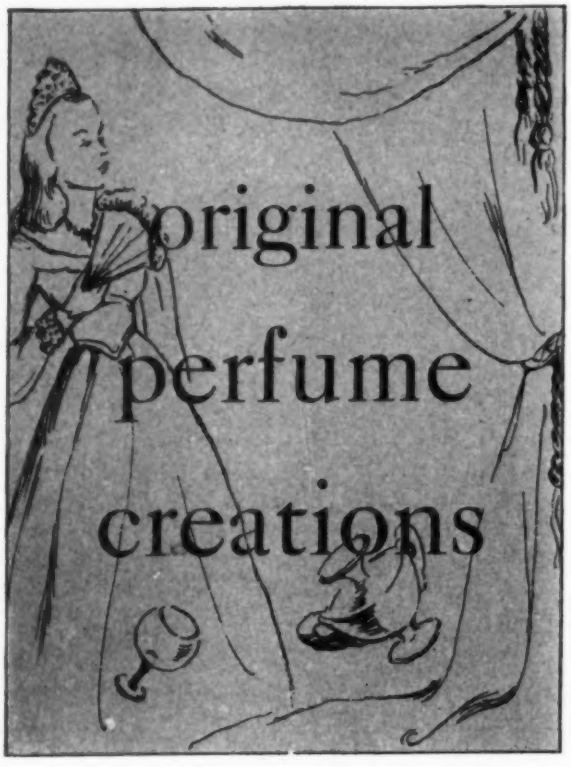

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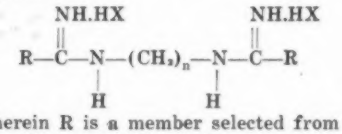
No. 2,364,075, Disinfectant Compounds, patented December 5, 1944, by Madison Hunt, Claymont, and James E. Kirby, Wilmington, Del., and John F. Lontz, Gadsden, Ala., assignors to E. I. du Pont de Nemours & Company, Wilmington. A new compound having the following general formula:



wherein R is a member selected from the class consisting of monovalent, straight chain, saturated, aliphatic hydrocarbon radicals of ten to 8 carbon atoms; n is an integer from six to ten; and X is an anion of an acid having a dissociation constant greater than $1x10^{-11}$.

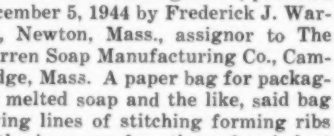
No. 2,364,575, Soap Package and Method of Making Same, patented December 5, 1944 by Frederick J. Warren, Newton, Mass., assignor to The Warren Soap Manufacturing Co., Cambridge, Mass. A paper bag for packaging melted soap and the like, said bag having lines of stitching forming ribs on the inner surface thereof to indent the contents of the bag.

No. 2,364,608, Cleaning Compositions for rugs, Upholstery, Furs, and the Like, patented December 12, 1944 by George H. Edwards, New York. A cleaning compound having dust collecting and dirt absorbing properties comprising the following ingredients in substantially the following proportions: 10 lbs. diglycol stearate, 22 gallons of water, 10 gallons Stoddard solvent, 16½ gallons of carbon tetrachloride and naphtha, 3½ gallons deodorized hydrocarbon solvent having a boiling range substantially from 379° F. to 468° F., 13 lbs. of soap and 192 lbs. of wood flour.

No. 2,364,767, Detergent Composition, patented December 12, 1944 by Paul T. Zizinia, Belmar, and Thomas L. McKenna, Newark, N. J., assignors to Allied Chemical & Dye Corp., New York. A detergent composition consisting essentially of a neutral water-soluble salt of an alkyl aryl sulfonic acid and from about 40 per cent to about 65 per cent by weight of a water-soluble sulfate selected from the group consisting of alkali metal and alkaline earth metal sulfates, in which alkyl aryl sulfonic acid salt the aryl group is mononuclear and the alkyl group contains, on the average, from about 12 to 23 carbon atoms, the product being in the form of a mass of separate approximately globular hollow particles, at least about 85 per cent of the mass consisting of particles of such size that they pass through a 20 mesh screen but are retained on a 60 mesh screen, the product in mass having a bulk density in the range of about .07 to .15.

No. 2,365,047, Pest Control, patented December 12, 1944 by Euclid W. Bousquet, Wilmington, and Hubert G. Guy, Newark, Del., assignors to E. I. du Pont de Nemours & Co., Wilmington. An insecticidal composition adapted to inhibit feeding of chewing insects containing as an essential active ingredient a compound selected from the class consisting of phenyl xenyl ether and its halogenated derivatives and a carrier therefor.

No. 2,365,056, Insecticidal and Fungicidal Materials, patented December 12, 1944 by Gerald H. Coleman and Gerald A. Griess, Midland, Mich., assignors to The Dow Chemical Co., Midland, Mich. An amine salt having insecticidal and fungicidal properties and characterized by the formula



wherein R represents an aromatic radical of the benzene series, R′ is selected from the class consisting of alkyl radicals containing from 1 to 8 carbon atoms, inclusive, phenyl, cyclohexyl, and hydrogen radicals, w is an integer not greater than 2, m is an integer not greater than 4, n is an integer from 2 to 4, inclusive, and —O—Z represents a substituted phenoxy radical derived from a phenol of the benzene series characterized by nuclear-substituted nitro groups in the para-position and in one of the positions ortho- to the hydroxyl radical.

No. 2,365,057, Fungicidal Materials, patented December 12, 1944 by Gerald H. Coleman and Gerald A. Griess, Midland, Mich., assignors to The Dow Chemical Co., Midland, Mich. A fungicidal composition comprising an inert diluent and as an active ingredient a compound of the formula

wherein R represents an aromatic radical of the benzene series, R′ is selected from the class consisting of alkyl radicals containing from 1 to 8 carbon atoms, inclusive, phenyl, cyclohexyl, and hydrogen radicals, w is an integer not greater than 2, m is an integer not greater than 4, n is an integer from 2 to 4, inclusive, and Z is a haloaromatic radical of the benzene series having at least one halogen atom directly attached to the oxygenated benzene ring.

No. 2,365,190, Washing Compositions, patented December 19, 1944 by George B. Hatch, Pittsburgh. A washing composition, comprising an alkali-metal trimetaphosphate and an alkali, whereby when the washing composition is dissolved in water the alkali-metal trimetaphosphate is converted into alkali-metal tripolyphosphate, the alkali being in amount sufficient to produce in aqueous solution a pH of at least 8.5 after substantially complete conversion of the trimetaphosphate radical to tripolyphosphate radical.

No. 2,365,215, Detergent Composition, patented December 19, 1944, by John Cecil Rhodes, Wyncote, Pa. A finely divided free-flowing non-caking readily water-soluble detergent powder composition comprising by weight about 25 to 75 per cent sodium metasilicate, 10 to 40 per cent sodium carbonate, an effective amount up to 35 per cent sodium bicarbonate, 5 to 20 per cent of an organic wetting agent and 1 to 15 per cent tetrasodium pyrophosphate in substantially unreacted form, said composition having a pH about 9 to about 11.5 in about 1 per cent by weight aqueous solution.

Hooker Wins Fifth "E"

The fifth Army-Navy "E" award has just been won by Hooker Electrochemical Co., Niagara Falls, N. Y., for outstanding production of war material, it was anounced late last month. The fifth "E" award was won Sept. 8, 1942. In addition, the Tacoma, Wash., Hooker plant was the recipient of the Army-Navy "E" flag, Jan. 9, 1945.

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BOOK REVIEWS

FORMALDEHYDE by J. Frederic Walker of the Chemical Research Division of E. I. du Pont de Nemours & Co. 397 pages. One of the American Chemical Society Monograph Series. Published by Reinhold Publishing Corp., New York. Price $5.50. Twenty chapters covering early history, production, properties including reactions with various groups, chemical detection and estimation, discussion of polymers, and commercial uses. A few pages cover formaldehyde uses in deodorization, disinfection, and fumigation. Deodorizing properties of formaldehyde probably depend on its ability to react readily with amines, ammonia, hydrogen sulfide, mercaptans and the like with the formation of less volatile products.

MEDICAL USES OF SOAP, a symposium edited by Dr. Morris Fishbein, Secretary of the American Medical Assn. One hundred eighty-two pages with 41 illustrations. Published by J. B. Lippincott Co., Philadelphia. Price $3.00. The book is evidently designed to inform both the medical profession and the general public on the subject of soap. That the need for such information among practicing physicians is considerable, there seems little question. The book undertakes a fundamental educational job on the whys and wherefores of soap. If experience is a criterion, most doctors should read it. The book is not really a study of medical uses of soap, but rather is a discussion of what soap is, how manufactured and the medical aspects of its use by people in washing themselves and their apparel. Effects of soap on the skin, both good and bad, skin troubles, shaving and shaving preparations, shampoos and care of the scalp, and a discussion of the chemistry and uses of non-soap detergents are included. An interesting and valuable book in the library of any soaper.

COMMERCIAL METHODS OF ANALYSIS by Dr. Foster D. Snell and Frank M. Biffin, F.R.I.C. with photomicrographs by George Lord. 753 pages. Published by McGraw-Hill Book Co., New York. Price $6.00. One of the International Chemical Series. Designed to cover the practical chemical analysis of many commercial products by proved methods with explanations of various steps in the methods. Fundamentals in the preliminary approach to analysis, in laboratory equipment and in general procedures are reviewed briefly. Most standard methods of analysis are merely outlined in the book including some of ASTM and AOAC. Where detailed use of the original method is required, it must be referred to elsewhere. Essentially the methods given by the authors are aimed at time saving in the busy commercial laboratory in presenting a suitable method for most work or a guide to further detailed method. About 120 pages given to methods for oils, fats, soaps, solvents, waxes, etc. Book should be particularly valuable in laboratories where new products and new problems are frequently encountered.

COMMERCIAL WAXES, a Symposium and Compilation edited by H. Bennett, technical director, Glyco Products Co. 583 pages. Published by Chemical Publishing Co., Brooklyn, N. Y. Price $11.00. A review of information on natural and synthetic waxes and trade-marked wax specialties, their properties and uses, and formulas for the manufacture of commercial wax preparations. Some 170 pages are given to a "Wax Formulary" covering formulas for various types of wax products including adhesives, coatings, inks, crayons, polishes, floor waxes, cosmetics, drugs, lubricants, sizing and waterproofing materials, etc. Many so-called commercial waxes—as differentiated from common natural waxes—are discussed including their properties and uses, but generally with scant reference to

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their composition or source. Trademarked names are used indiscriminately in text and formulas along with common names of natural waxes, creating an impression of confusion. As an encyclopedia of commercial wax data, the book is a mine of wax information. All the reader has to do is to dig the information out.

Louis Piatt Joins WPB

Louis Piatt, head of the home canning division of Anchor Hocking Glass Corp., Lancaster, O., was recently named glass and closure consultant in the Glass Container and Closure Section, Containers Division, War Production Board. Mr. Piatt served in various capacities in both the container and closure divisions during his 18 years of service with Anchor Hocking.

F. J. Beyer, Dreyer V.P.

Fred J. Beyer, of P. R. Dreyer Inc., New York, was elected executive vice-president of the company at a recent meeting of the stockholders. Mr. Beyer has recovered from his recent illness and has returned to the office to assume his new duties.

Wellenkamp General Drug V.P.

C. K. Wellenkamp, manager of the aromatics division of General Drug Co., Brooklyn, has been appointed vice-president of the company in charge of the division. For the past 15 years he has been manager of the aromatics division for General Drug. Before that he was with Fritzsche Bros., New York. Mr. Wellenkamp will make his headquarters in General Drug's new New York offices at 125 Barclay St., where they were moved last month from Brooklyn, location of the warehouse and laboratories.

C. K. WELLENKAMP

Soap Bids Sought by WFA

The War Food Administration, Washington, D. C., announced Jan. 15, contemplated purchases by the Commodity Credit Corporation of 15,594,452 pounds of soap and soap products for delivery some time during the next four months. Offers to bid on the various items were to be received by Jan. 25. Soap items which the CCC was seeking included toilet soap, carbolic soap, laundry soap, shaving sticks, soap powder, soap flakes and shaving cream.

Church Honors William Welcke

William A. R. Welcke, vice-president and treasurer of Fritzsche Bros., Inc., New York, was recently named a member of the American chapter of the Knights of Malta, which is one of the highest distinctions that can be conferred on a Catholic layman.

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THE GLYCERINE OUTLOOK

(*From Page 35*)

discontinuance of exports to England and Russia. In the second half of 1943 and 1944 the production of soap and consequently glycerine was greatly increased and at the same time a small amount of glycerine was imported from South America so that the stocks increased to a high point of 96 million pounds on May 31, 1944. Since that time, due largely to increased domestic consumption but also due to slightly increased exports, the stocks have declined by about six million pounds.

The world demand for glycerine will probably be heavy for a period after the war, since production in Europe has been practically non-existent with the exception of that produced specifically for military purposes. As a result of this demand it is likely that U. S. and U. K. glycerine stocks will decline for a time at least until European production is resumed. Consequently, it is probable that the disparity between production and domestic consumption will not create any great difficulties during the two years following the end of the European War. However, at the end of this time European glycerine production will probably be back somewhere near normal and as indicated earlier in this paper, the production of soap in the United States with the concomitant production of glycerine may increase to substantially higher levels than at present. The result may again very well be a world over-supply of glycerine.

There is a possibility that increased consumption by Russia may absorb some of the increased production, just as there is a possibility of some of the present domestic uses expanding; but it is doubtful that it would be safe to place much reliance on these possibilities. Furthermore, the production of glycerine substitutes has increased and these materials are being aggressively sold by their manufacturers. As indicated above they have made inroads into some of the fields held by glycerine and will probably continue to do so. Where the question of non-toxicity is important glycerine is in a safer position than where this characteristic is unimportant. But unfortunately some of the largest uses of glycerine do not require non-toxicity. Consequently serious consideration must be given to the development of new uses for glycerine, particularly in those fields where its individual properties are important.

Since research is a time consuming operation, no delay should be permitted in undertaking a program for the development of such new uses. This problem is one which should receive the attention of every soap manufacturer and fatty acid manufacturer since whether or not he produces refined glycerine, he must have a market for his crude. If the supply exceeds the demands, his crude market may be lost, and he is likely to be faced with the necessity of discarding his glycerine and his primary products will be forced to carry the entire cost of manufacture.

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(1) Lenth, C. W. Soap & Sanitary Chemicals, *20*, 33 (Dec. 1944).
(2) McConlogue, W. A. & Lenth, C. W. *ibid.*, *20*, 34 (May 1944).
(3) Chem. & Eng. News, *22*, 456 (Mar. 1944).

THE POTASH SOAP INDUSTRY

(*From Page 41*)

man operation, will find himself better rewarded to find employment with an established business. It is true, however, that some businesses will succeed, but to succeed, these factors must be kept to the fore and given full consideration:

1—Sales potentials of the territory must be carefully determined.
2—Competition must be considered from all angles.
3—Competent production personnel must be available.
4—The Sales organization (whether one man or a sales force) must exist.
5—A suitable plant must be selected, with consideration of shipping facilities, both incoming and outgoing.
6—Sufficient capital must be available for purchasing and installing the necessary equipment.
7—Still more capital must be available to tide you over the period of getting started.
8—Every cost entering into the production and sales of the product must be known and recognized.

When all these factors have been considered and answered, then, and not until then, are you ready to enter the business of manufacturing potash soaps and their allied products, and to compete for a share of that 2½% of the total soap business that falls to the potash soap manufacturers.

DISHWASHING SANITATION

(*From Page 43*)

greasy soil[7] to determine the "cleaning index" of detergents used for dishwashing.

Examination of the bacterial content of the sanitizing solution (16, 23a) seems to be a desirable feature of any method.

Although a great deal of work has been done on the methods of determining the bacterial contamination of utensils, little effort has been made to develop a laboratory technique for the evaluation of sanitizing agents, without the need of a practical trial. It may be stated that the information assembled here justifies the hopes that such a technique can be satisfactorily evolved, through a suitable combination of the methods described.

Scouring Cloth

Terry cloth, employed mainly in towels and bath robes, finds a new field of application in "Downite," a nonmetallic abrasive cloth developed by the Downy Products Company of Orange, N. J. Abrasives of different grain sizes for particular kinds of work including industrial cleaning and surfacing, are anchored to the soft, pliant material by a durable plastic binder. Used wet or dry, flat or wadded up, the cloth may be used to remove dirt-laden grease from surfaces, as well as for smoothing wood, by selection of the right particle size.

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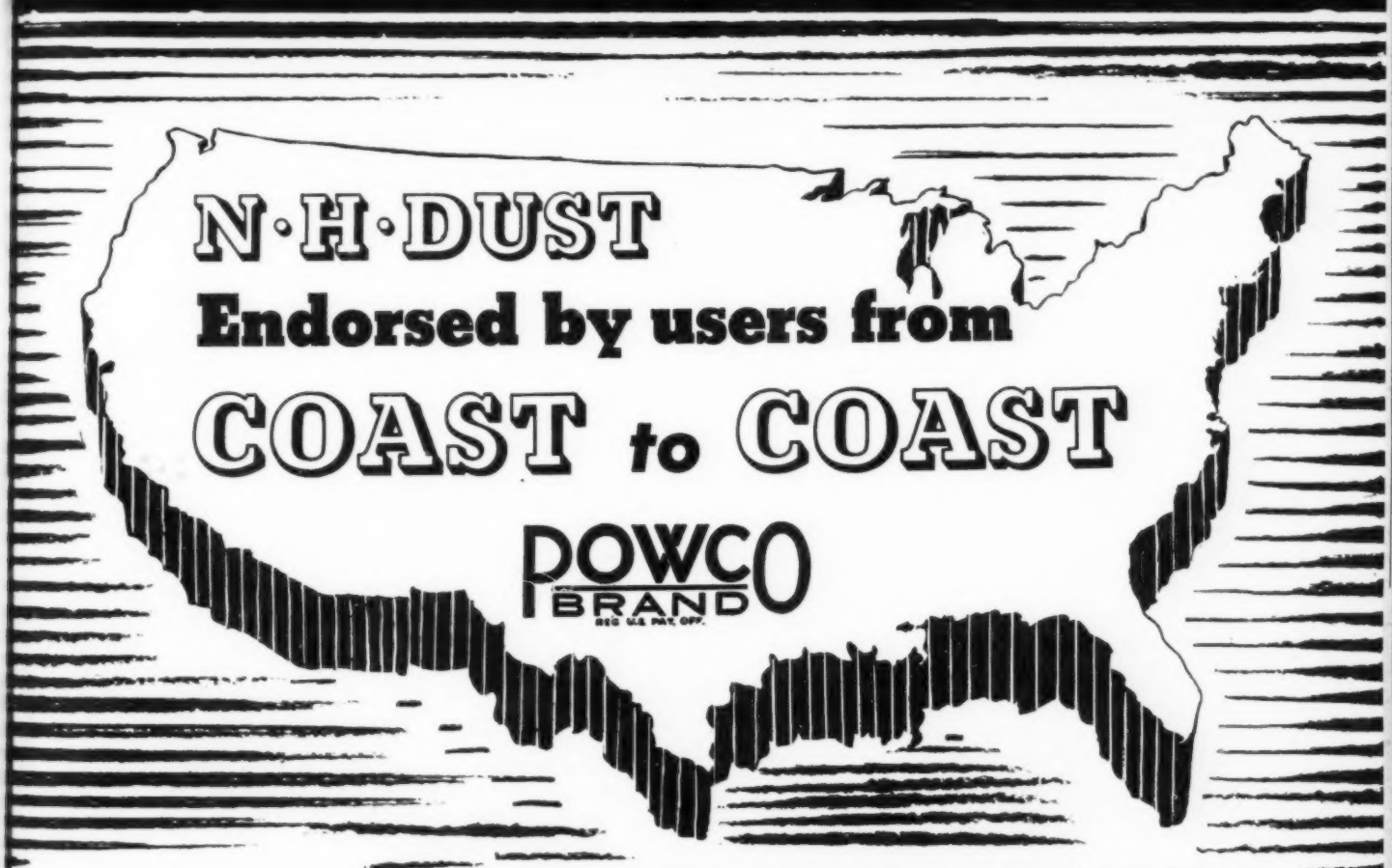

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3. It works with deadly accuracy on roaches, silver fish, fleas and lice.
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5. It matches Pyrethrum's deadliness, but at lower cost.

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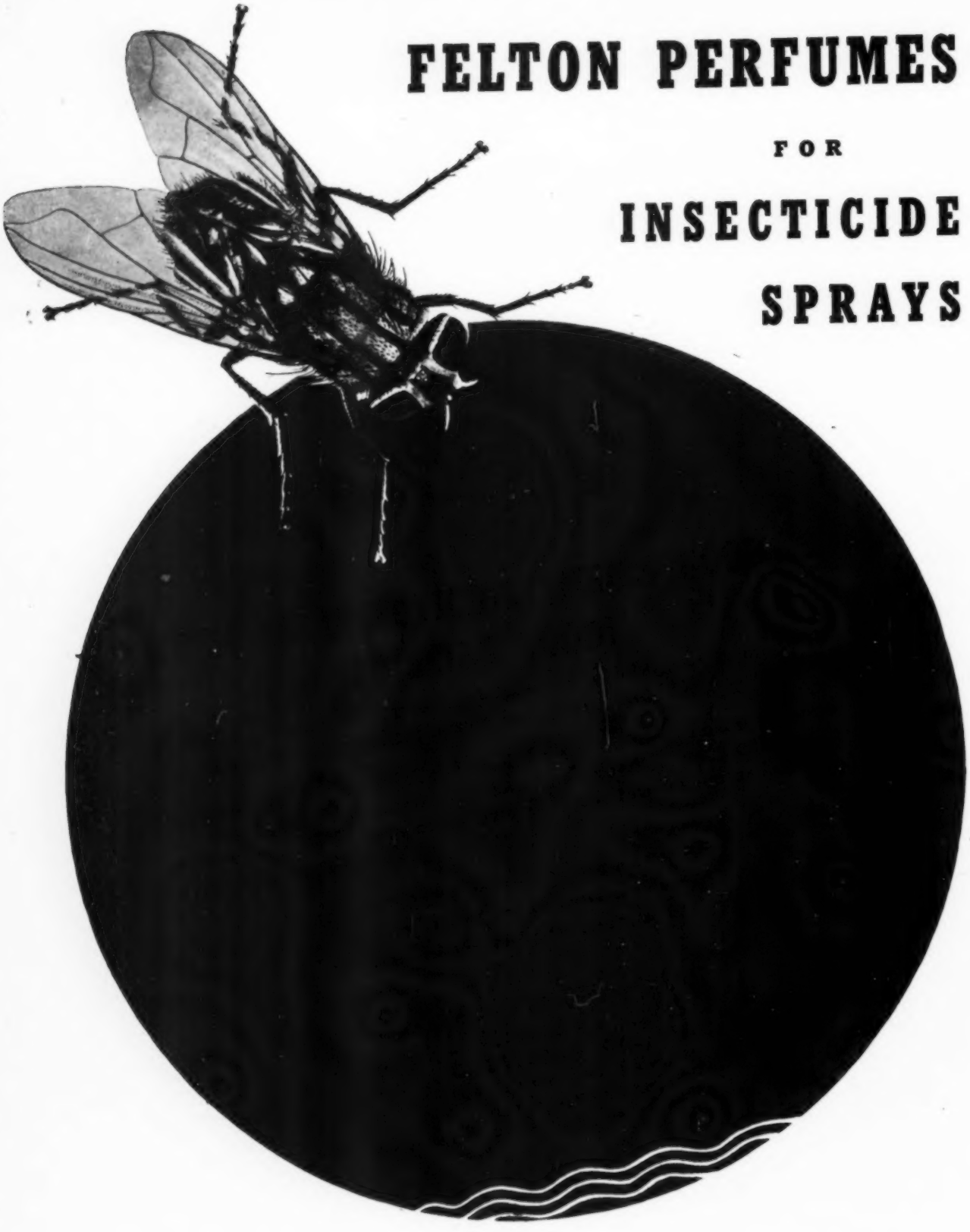

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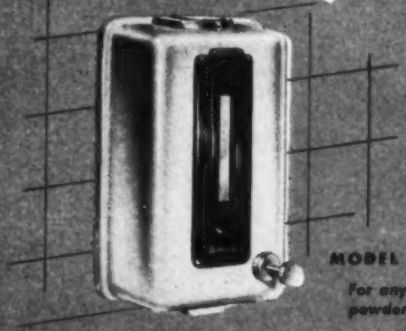

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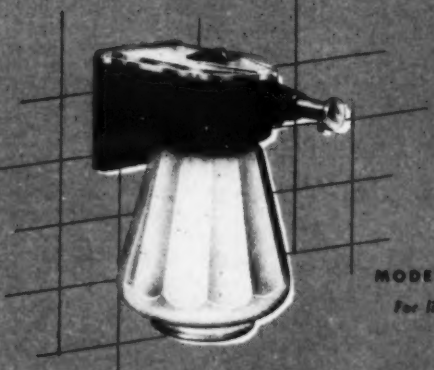

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INSIDE NEWS

FEBRUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Tin Cans Are Vital on Fighting Fronts

The war reduced the number of metal containers on store shelves, but products that necessarily require can protection are still packaged in tin.

The armed forces, of course, have priorities on cans and are using almost unlimited quantities to carry food, medicine, weapons and ammunition. Even as early as the Napoleonic invasion of Russia cans were used by the armies. Food — then, as now — was preserved and transported in sealed containers.

Today, American fighting forces are the best fed in the world — thanks to the can. For, the can protects like no other container. The can is easily handled and transported, is standing up under varied conditions of climate and combat encountered in a global war. Food in them may be hermetically sealed, protected against spoilage, loss of flavor or food value and against any contamination by dirt, germs or tampering. Cans don't shatter, are air-and-light-tight, nonporous, nonflammable, and may be soaked, heated or chilled without disintegrating.

Cans that formerly contained civilian products now carry fluorescent paint, a part of lifeboat equipment. When the contents are thrown overboard, a giant splotch of color — yellowish green in daytime and shining brightly at night — spreads hundreds of feet around the boat, a marker for searching planes. Even at 8,000 feet a plane can see this brilliant signal of distress.

Some types of cans now hold colored signal cartridges and projectors used on the battle fronts to signal enemy positions. Other types are carrying ammunition that must be protected from air, moisture, dirt and rough handling up to the moment it is put in the guns.

And still other cans are booby-trap cans filled with explosives. Two wires run from the inside to hidden trip wires which explode the mine on contact. Such mines cripple enemy tanks by wrecking their treads.

When conditions become impossible for setting up field kitchens, soldiers carry their day's food supply — field rations — in compact cans. As a matter of fact, almost all of the food supplied our expeditionary forces is shipped in cans. All meat, poultry, fish, tomatoes, citrus fruits and soups are canned. Almost all of the leafy green and yellow vegetables and other vegetables, excluding potatoes, are canned. A little more than three-quarters of the fruits other than citrus, and 85% of milk and milk products are canned.

And when the can contents are used up, Yank ingenuity transforms the "empty" into a "desert sand stove" — a gallon food can filled halfway with sand saturated with gasoline. The upper half is punctured to let gases escape. This stove will burn consistently, produce considerable heat, and is not detectable from the air.

We at home can take a lesson from this. We can use empty cans for salvaging vitally needed waste fats, returning to manufacturers when requested, and contributing to the tin salvage drive. 869

Cottonseed Will Help

Amino acids are getting more attention than vitamins these days. They are what brought soybeans their current popularity, both industrially and nutritionally. Cottonseed meal also has a good supply, which is why cottonseed meal has been used for animal feeding. Now, by taking out part of the fat and properly preparing the meal, a cottonseed flour is being produced which is claimed to be wholesome and palatable for human use.

This is important, because it means that there is another source of protein food in the districts which have most need of it because they depend largely on cereals, particularly corn, for food. The protein of cottonseed flour is made up of goodly proportions of the essential amino acids missing in the other cereals. And it is about 50 per cent protein, so that 5 per cent of cottonseed flour mixed with wheat flour will give a mixture with 16 per cent more protein than the wheat flour had alone. And finally, the cottonseed protein is easily digestible, according to those who are working with it. 870

Hens Hatch More Eggs

Information is now available to indicate that a mixture of cereal grasses with condensed milk or condensed buttermilk, when fed as a supplement to laying hens increases egg hatchability. The increase is 1.38 to 4.45 per cent above the basal ration. 871

A More Durable Wood

Wood, impregnated with arsenic compounds by a new Swedish process, is said to have three times the durability of untreated wood. 872

Rubber Vulcanizing Agents

Rubber vulcanizing agents, lead and zinc salts of thiuram polysulfides, are obtained by dissolving thiuram polysulfide in an aqueous solution of lead or zinc salt. 873

Sticky Starches

The glutinous starches, developed from the so-called waxy maize and sorghums, are well adapted for many uses in foods and in adhesives. They give clear, viscous solutions when heated with water, with the further advantage for many food uses that these solutions are tasteless in themselves and, therefore, will not spoil the flavor of food products to which they are added.

Incorrect processing conditions, such as a too acid steep water, will destroy the particular characteristics of these special starches. Too drastic grinding will fracture the granules and result in starch pastes with less viscosity than that of an ordinary low-viscosity starch. Scientists at one of the governmental laboratories have worked out methods to avoid both these dangers. As soon as the crops are available the special starches can be processed to take the place of tapioca starch or for the development of new products, both foods and adhesives, for which their unique properties will provide a foundation. 874

Olive Oil Substitute

Investigation of uses of expressed apricot kernel oil by the Council for Scientific & Industrial Research, Australia, suggests this oil as a suitable substitute for olive oil in the canning of fish. 875

Improving on Nature

Near Atchison, Kansas, a natural cave with 15 acres of floor space, has been converted into a Government cold storage food warehouse. In addition to lighting and transportation facilities, even an electric eye door has been installed. 876

Canada Will Can Apples

Solid-pack apples were reaching a considerable volume of business in Canada before the war, mostly in gallon tins, and it is planned to offer them on the market there in home-size cans as a postwar product.

The Canadian method is to pare, core and trim the fruit by hand, then soak in brine for 12 hours, drain, partially cook by steam on a wire mesh belt, drain and fill into cans. Quick cooking and quick cooling of the cans are important to quality. 877

Papayas Canned

Papaya is a very promising source of vitamin C and provitamin A, with both flavor and texture to recommend it as an addition to northern diets. The fruit is grown in Florida, Texas and California.

One interesting suggestion is a pack made with cubed papaya in a 45 deg. Brix syrup made with grapefruit juice and sugar. Processing offers no difficulties and the product will maintain satisfactory quality for at least 6 months under storage temperatures up to 95 deg. F. 878

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Super Bacteria-Killing Soap

Incorporation in toilet soap of 2 per cent of dihydroxyhexachloro diphenyl methane produces a soap which has such an effect on the bacterial flora of the human skin that resident bacteria are decidedly and permanently reduced in number. An individual using this soap regularly will have a lower bacterial count after two minutes of washing than an individual who washes for twenty minutes with ordinary toilet soap. Regular use of this medicated soap should do much to shorten pre-operative scrub-up procedure for surgeons and to eliminate the use of irritating germicides. For the general public, and particularly for wartime use by soldiers, regular use should reduce the probability of infection following skin abrasions and superficial wounds. 879

Extracting Fat from Dried Milk Powder

A satisfactory method for extracting fat from dried milk powder has been developed and is employed before making analyses on vitamin content. In recent tests, it was determined that there was a decrease of from 5 to 10 per cent in Vitamin A and carotene after a six month storage period at a temperature of 20 deg. C. An additional 3 to 5 per cent loss resulted from storing at 37 deg. C. Samples held at the lower temperature showed practically no loss of riboflavin and only slight losses at the higher temperature. The material tested was dried whole milk powder, packaged in nitrogen and stored at 20, 30 and 37 deg. C. to determine the effect of temperature and time of storage on vitamin content. 880

Canned Cheese

Vacuum canned cheese made with the usual starters frequently produces sufficient gas after canning to be at atmospheric temperature when ripe, and it is not uncommon for the pressure developed during ripening to be high enough to bulge the ends of the cans. Addition of *Lactobacillus bulgaricus* as a starter results in less gas. The flavor of the cheese is no longer that of a typical cheddar, but is described as being clean, sweet and acceptable to many people. The mature cheese made with this starter withstands storage at 55 to 65 deg. F. for as much as 50 days.

Work is being continued. It is to be hoped that we will soon have canned cheese that looks like cheese, tastes like cheese and keeps indefinitely. 881

Lubricating Composition

The addition of certain metal salts to petroleum oil provides a lubricating composition which overcomes the deterioration or degradation common to ordinary lubricants when subjected for long periods of time to high temperatures and pressure in the presence of metals, air or oxygen, or hydrocarbon partial combustion products. 882

Technical Topics

SOLVENT REMOVES TOXIC SUBSTANCES—An odorless household fly spray, less likely to produce rashes or hay fever symptoms, has been developed by three chemists in the Bureau of Entomology & Plant Quarantine. By a new method, nitromelhane can be used to produce practically pure pyrethrus from the impure petroleum extract of pyrethrum flowers. This new solvent takes out the toxic substances, but leaves the irritating impurities in the petroleum solvent. 883

PRESERVES EGGS — Eggs, treated soon after laying by dipping into light paraffin oil, vis 50-60 Saybolt, containing 0.25% pentachlorophenol at 70°F, keep without change for six months at 31°F and 92 –5% humidity. 884

SNAIL CATCHER — Metaldehyde in bran or orange pulp attracts snails and paralyzes them on contact. When exposed to sun they are killed by loss of moisture. 885

COFFEE USED AS EXTRACT — Coffee can be used to extract not only caffeine fat, and tannin, but a low-cost lubricating oil, useful for motor cars and airplanes and different kinds of phenol and hydrogen. Methods have been devised by a Swedish inventor. 886

VERSATILE SOLVENT — Propylene glycol is a versatile solvent that is receiving attention from many food technologists. It has the advantage of acting not only as a vehicle for flavors, but is claimed to have valuable properties as a moistening agent and as a preservative. One of its recently disclosed applications is in the preservation of shredded coconut. 887

CANNED AND CURED — Lactose is the sweetening agent to use in canned cured meats to avoid acid and gas formation, according to well known meat technologists whose work has just resulted in a patent on a curing method using this sugar. 888

NEW WOOD GLUE — Phenol resin is one of the new "synthetic" glues that has found numerous uses in the wood manufacturing industry. Odd shaped lumber can be laminated together with this waterproof resin making the construction stronger than solid wood of the same dimension and very much less subject to splitting and checking. As opposed to plywood, the term "lamination" generally refers to the taking of solid wood and gluing it with all plies running in the same direction. 889

DENATURANT — Racemic menthol as a denaturant for specially denatured alcohol in place of the U.S.P. material has been approved by the Treasury Department in certain formulas, following data and samples submitted to the Department. 890

PARIS GREEN — The loss of sodium sulphate as waste in the production of paris green is avoided in a new Russian process employing copper oxide, arsenic trioxide, and acetic acid (in excess). Laboratory and pilot-plant operations have given 1,000 parts of dry paris green from 326 to 329 parts of copper oxide, 602 to 614 parts of arsenic trioxide, and 132 to 137 parts of acetic acid. 891

SODIUM SULPHITE IMPROVES MASHED POTATO POWDER — The addition of sodium sulphite to the mash before drying, in the manufacture of mashed potato powder, improves the color of the product and decreases the loss of ascorbic acid during drying. It also increases storage life. The addition of calcium chloride to the mash has a marked effect in reducing cell damage. 892

PETROLATUM — Petrolatum penetrates the skin better when mixed with water. The addition of woolfat or cholesterol makes it possible to incorporate far more than the 10 per cent of water which can be got into plain petrolatum. The addition of 2 parts of woolfat to 98 parts of petrolatum brings the water percentage up to 60; adding 4 per cent of cholesterol makes it easy to add well over 200 per cent of water. The technique is to beat the water into the cooling melted petrolatum. 893

MOTHPROOFING PROTEINACEOUS FIBERS — Mothproofing of raw furs and other proteinaceous fibers is successfully reported with a saturated solution of sodium chloride (liquor ratio 25:1) containing 1 per cent of formaldehyde and hydrochloric or sulphuric acid. The best results are obtained at a pH of nearly 0.5. 894

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article — also name of the magazine you saw it in.

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INSURED MOTHPROOFING...

MORTOLIN IS BACKED by an INSURANCE POLICY!

This policy, issued by one of the largest companies of its kind, covers every firm that uses MORTOLIN in the preparation of its compounds for a period of 2 YEARS AFTER APPLICATION of the compound for mothproofing purposes.

This is guaranteed protection through the manufacturer of mothproofing compounds containing MORTOLIN . . . to Wholesalers, Dealers and even consumers. Only a high quality product merits such protection.

Mothproofing with MORTOLIN is INSURED MOTHPROOFING!

MORTOLIN is inexpensive. Not only is its basic cost low, but only a small proportion of the concentrate is necessary to provide an excellent mothproofing compound.

MORTOLIN is available in two forms: MORTOLIN, soluble in light refined petroleum bases, and MORTOLIN W, soluble in water.

Let us send you full data concerning this product.

Other Associated products:

HI-TOX for your fly and cattle sprays.

MORTICIDE and SUPER-MORTICIDE for bed-bug and roach sprays.

FORTIFIED RED SQUILLS for Rodent control.

Write our office nearest you for information and samples of our products.

Associated Chemists, Inc. (A C)

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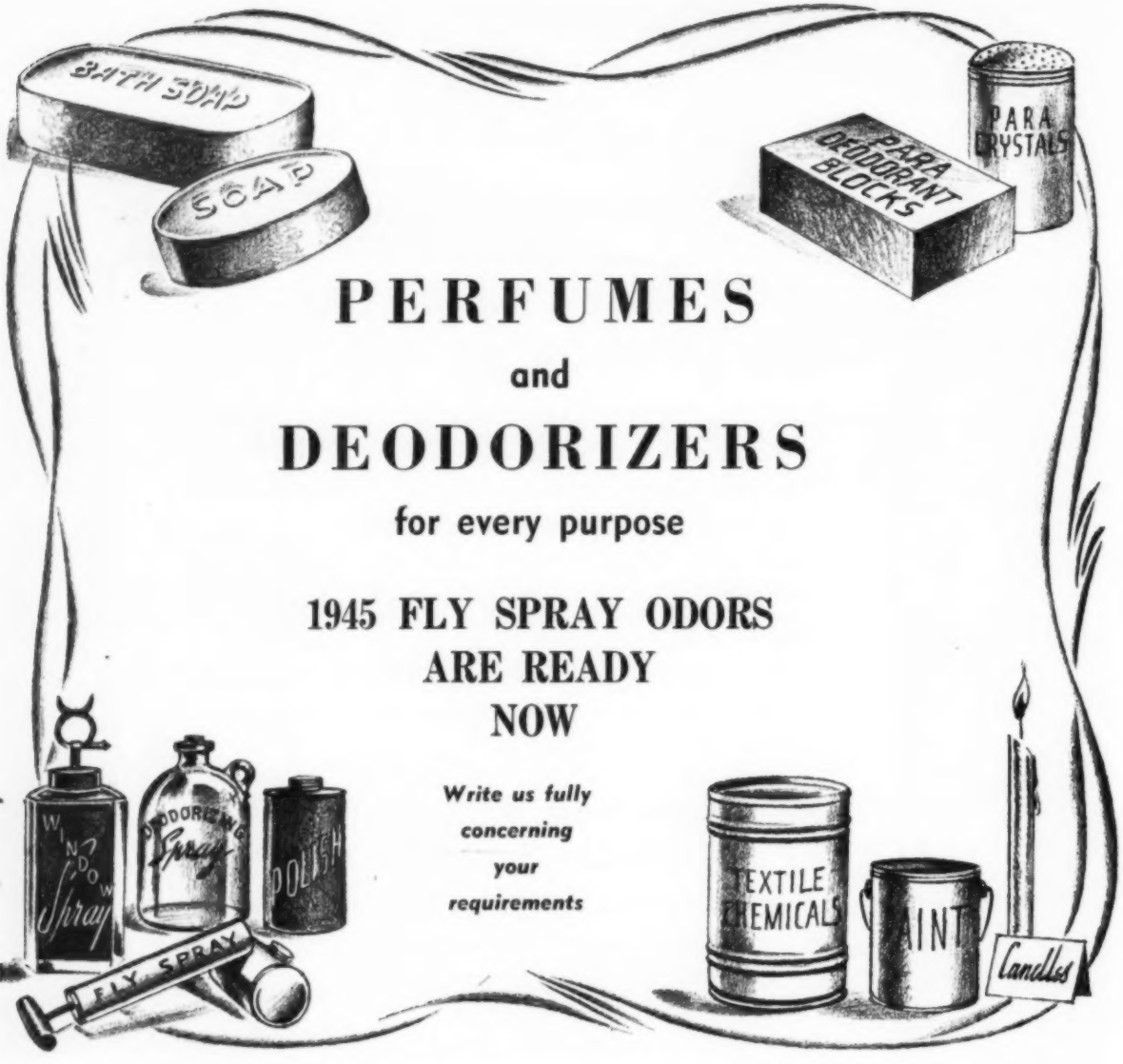
CHICAGO 14, ILLINOIS



PERFUMES
and
DEODORIZERS

for every purpose

1945 FLY SPRAY ODORS ARE READY NOW

Write us fully concerning your requirements

ORBIS
PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N.J.

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PHILADELPHIA — 610 Brown Bldg.
MEXICO, D. F. — Apartado Postal 8919
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Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
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Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

Not Forgotten

PYRETHRUM *Natural Insecticide Base*

is doing a big job for our armed forces. Every pound that can be made available is being used to protect our men on every front — which will continue to be the case for some time.

However, when both the war picture and the supply picture improve, there will be a chance for the trade to get acquainted again with the NATURAL INSECTICIDE BASE — Pyrethrum and its improved forms.

R. J. PRENTISS AND COMPANY has not forgotten Pyrethrum, either. The Prentiss laboratories are constantly at work on new and better Pyrethrum compounds to put on the market after the war. Keep in touch with R. J. PRENTISS!

AVAILABLE NOW:

RED SQUILL

STANDARDIZED
ACTIVATED
FORTIFIED
EFFECTIVE

Guaranteed to meet the recommendations of the Fish and Wild Life Service for a minimum lethal dose of 500/600 mg/Kg of rat, Red Squill is a safe raticide for profitable resale to householders.

RED SQUILL — Killing Power . . . plus!

See R. J. PRENTISS today!

R. J. PRENTISS & CO.

80 JOHN STREET, NEW YORK 7, N. Y. 9 SO. CLINTON ST., CHICAGO 6, ILL.

CHEMICAL MANUFACTURING Co.
AND DISTRIBUTING
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RED SQUILL

FORTIFIED DETHDIET BRAND

K-I-L-L-S R-A-T-S

DEFINITELY MORE POTENT THAN RED SQUILL GENERALLY AVAILABLE IN RECENT YEARS

Extermination of disease-carrying, food-destroying, property-and-health menacing rats is the purpose of nation-wide rat control programs, now under way in hundreds of American communities.

Effective agent is **RED SQUILL, FORTIFIED DETHDIET BRAND**, meeting the standard established by the Fish and Wild Life Service of the U. S. Department of the Interior—500-600 mg./kg.

The present rat-control program has a wide appeal on the basis of public health...should you not share in this sales opportunity?

S. B. PENICK & COMPANY

50 Church Street, New York 7, N. Y. • Telephone: COrtlandt 7-1970

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THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

BUY WAR BONDS AND STAMPS . . . FOR VICTORY

GIVE YOUR PRODUCT ROOM TO GROW

THE *Institutional Market* SPENDS $45,000,000* ANNUALLY

for WAXES, DISINFECTANTS, SOAPS, FLOOR FINISHES, CLEANING COMPOUNDS, INSECTICIDES, SANITARY CHEMICALS

● INSTITUTIONS Magazine is the only publication through which you can reach all related divisions of the Institutional field. If your present or contemplated products have an application to this field, your advertising messages in the columns of INSTITUTIONS Magazine will gain for them the kind of acceptance they must have to share in the huge Institutional Market.

★ **The mass-housing, mass-feeding institutions of America are a *mass market* for waxes, disinfectants, soaps, floor finishes, cleaning compounds, insecticides and sanitary chemicals. The Institutional field is a *concentrated* market with each unit buying and consuming in *volume* . . . with all units spending over $45,000,000 annually for these items alone. If your product has application to this field with its concentrated buying power, investigate the opportunities it offers for volume sales . . . Ask for a free copy of *"Your Institutional Market."* Write to INSTITUTIONS Magazine, 1900 Prairie Avenue, Chicago 16, Illinois.**

Your mass-housing and mass-feeding market is made up of the following institutions which constitute the reader audience of INSTITUTIONS Magazine:

- Hotels
- Hospitals
- Schools
- Restaurants
- Industrial Cafeterias
- Colleges
- Public Institutions
- YMCA's and YWCA's
- Railway Systems
- Steamship Lines
- Public Buildings
- Other Institutions

and . . . for the duration of the war—in addition to its regular circulation, INSTITUTIONS Magazine is being sent to buyers and specifiers of mass-housing and mass-feeding products for those engaged in the war effort.

N. Y. Postwar Building Programs Outlined!
Frozen Cooked Foods Seen as Profitable
Design for Model Food Service Room Given
How to Distinguish Between Fabrics
Institutions
MAGAZINE
PLACE POSTWAR ORDERS NOW!
INSTITUTIONS HAVE RECONVERSION TASK TOO, SAYS ANDREWS
War Food Head Says Surpluses Won't Be Great
Design for Postwar Food Service
IMMEDIATE ACTION CAN ASSURE FASTER V-E DAY DELIVERIES
Prior Rights to First Production Should Speed Remodeling

CONSULT YOUR ADVERTISING AGENCY

There is a war to be won before pyrethrum can be freely available for civilian use. *But,* when the time comes that our manufacturing facilities and the results of our past and present research are put at the service of the household insecticide manufacturers, we can promise some pleasant surprises.

During more than two and one-half years which have elapsed since pyrethrum was put under allocation, its availability to the household insecticide industry has steadily declined, and for a long time has approached zero.

Even under those discouraging conditions, interest in pyrethrum for future use instead of declining has expanded almost in inverse ratio to the supplies. Most of the post-war planning in our industry is rather inclined to visualize more extensive and, at the same time, more intelligent and scientific use than ever before.

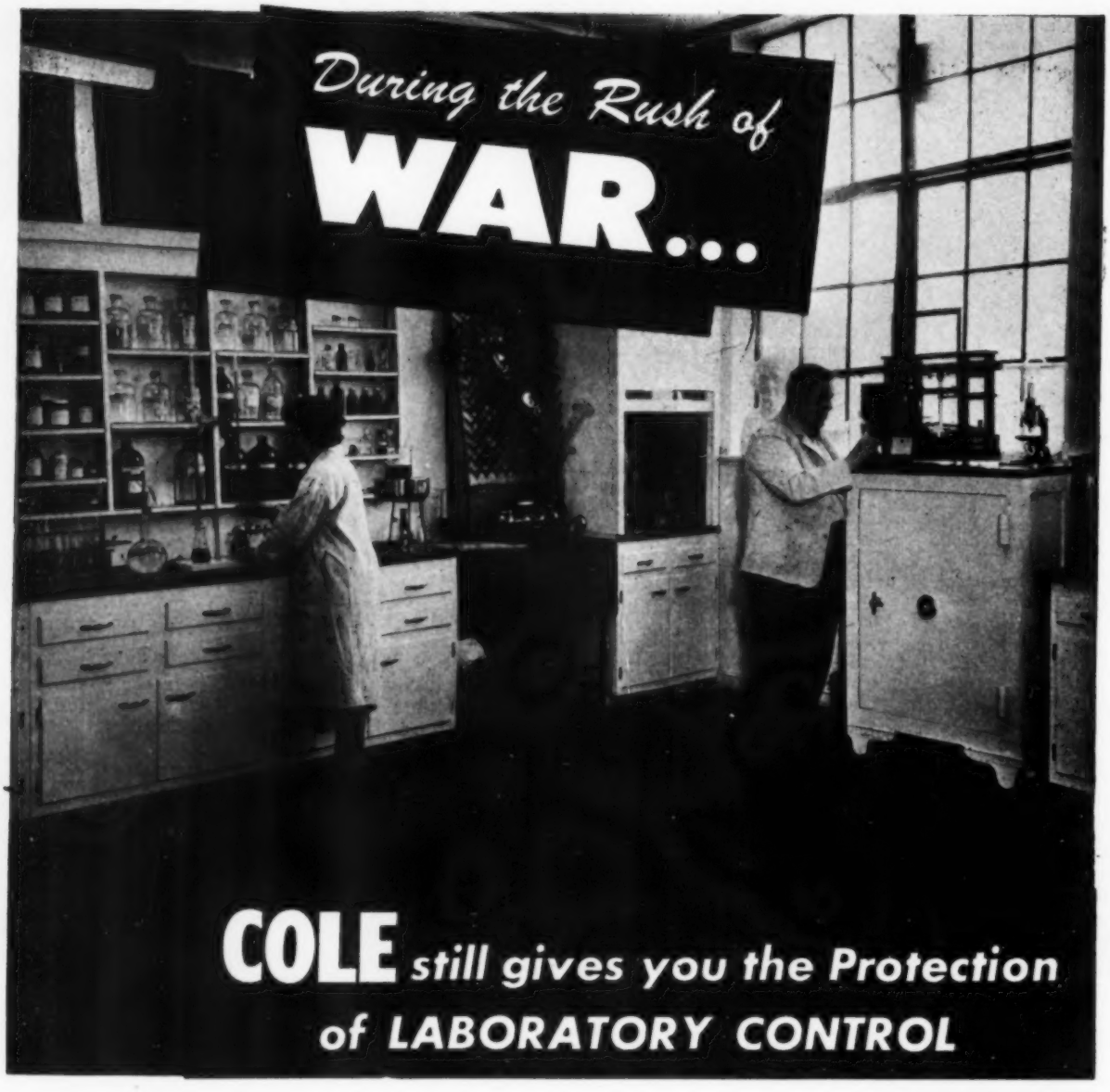
This seems an appropriate point to reiterate the statement that pyrethrum will maintain a leading place in insecticides for household use for a long time to come. It can only be displaced, if it ever is, by some at present unknown substance which will combine its somewhat remarkable advantages of rapidity of action, breadth of effectiveness, and—most important of all—complete safety of use.

Dodge & Olcott Company

180 VARICK STREET, NEW YORK 14, N. Y.

BOSTON · CHICAGO · PHILADELPHIA · ST. LOUIS · LOS ANGELES

Plant and Laboratories • Bayonne, N. J.



All Types of Soap

Although our three plants are all busily engaged in filling war orders which must take precedence over civilian requirements—we want our customer-friends to know that we are still in a position to satisfy their civilian needs and supply them with COLE Products in limited quantities. Despite these action-packed days, you can rest assured that COLE Products continue to represent the utmost in quality —because step by step, COLE Products are protected by continuous LABORATORY-CONTROL.

All Types of Disinfectant

For prices and literature, write Dept. S.C.

COLE LABORATORIES

23d St. and 37th Ave. • Long Island City, N Y.

Sure, miracles are around the corner, BUT—

When you get right down to it, the coming super-duper vacuum cleaners will still be used on the same, familiar rugs . . .

The "miracle" postwar cars will continue to take people to the same, old familiar haunts . . . the amazing, new home laundries will still do the family wash.

These products will do the same things for people they always did. BUT—with this important difference—they will do them better, more efficiently, more economically.

And that's a tip for your packaging business, too.

Will your products be packaged better? More efficiently? More economically?

Will your products be packaged more interestingly? Will people reach for your product in preference to the one next to it? How will your containers really stack up in the new markets?

Many customers come to us with problems such as these. They want to keep their established brands ahead of competition. Many want a larger share of business. And, after all, who doesn't.

Why don't you get the latest available information?

Our experience in developing and providing the Services with new, ingenious containers may prove beneficial to you just as it has to many manufacturers. After all, devising new, better ways of packaging things has been our business for 43 years now.

Consult our representative or write to us direct. It may lead you to some stimulating, postwar ideas and plans.

AMERICAN CAN COMPANY

230 PARK AVENUE CANCO NEW YORK 17, N. Y.

SHELL REGULAR BASE

Refined to meet the needs of modern household insecticide manufacturers

SHELL

SHELL OIL COMPANY, INC.

50 WEST 50TH STREET

NEW YORK 20, N. Y.

CANS ARE SO TROUBLE-FREE

... ideal for packaging INSECTICIDES!

Cans don't break . . . they shut out air and light . . . are tops for economy, sales appeal, convenience

• "Let me tell you why, as a maker of insecticides, I prefer my products in cans ...and why cans prevent headaches for jobbers and retailers, too.

"Take breakage. Cans are over 98% steel...they don't break. So it's safe and economical to pack, ship, store and handle insecticides in *cans*. And that goes for waxes and polishes, too.

"What's more, cans stay clean, attractive. And their smart, colorful labels have lots of display value and sales appeal.

"Cans shut out air and light, so harmful to the toxic principles in pyrethrum and rotenone. And they protect inflammable waxes and polishes from fire.

"Yes, sir...I've always preferred insecticides, waxes, and polishes in cans. So have my customers. We'll all hail the day when cans are back again!"

5 MAJOR REASONS

Why Housewives Prefer Insecticides in Cans

1. Cans don't break.
2. No dangerous leakage.
3. No air- or light-deterioration.
4. Cans are more convenient.
5. ...And more economical.

BIG AD CAMPAIGN PLUGS CANS!

Every month more than 30,000,000 printed messages about cans are read by families throughout the U.S.A. Full-page, full-color ads appear regularly in Sunday newspapers and ten national magazines to keep consumers thinking of the advantages of cans.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Grades:
MELTING POINTS OF 39°C AND 40°C
90% AND 82% PHENOLS

KOPPERS

Grades:
PURE ORTHO CRESOL
85% ORTHO CRESOL
META PARA CRESOL
U.S.P. CRESOL

Chemical raw materials for the soap, insecticide and disinfectant industries

ALL GRADES OF COAL TAR ORIGIN:
TAR ACID CONTENT NOT LESS THAN 99%

10%—50% TAR ACID CONTENT
AS SPECIFIED

KOPPERS COMPANY, INC. *Tar and Chemical Division*
PITTSBURGH 19, PA.

MELTING POINTS:
74°—76°—78°—AND REFINED

★ Proving ground for your product

The final result of all your research, your raw material control, your skill in manufacturing is placed in a package and sealed—and your reputation sealed with it. From then on it's all out of your hands—it's up to the package.

You won't be in store and home to display your product as you'd like, but the package can. *You* won't be there to make your package easy to open and close, and use and use again —but the closure can.

That's why so many manufacturers, with products they're proud of, use Anchorglass and Anchor caps—to *keep* their product as perfect as they made it, all the way into the home and to the satisfactory use that means re-orders.

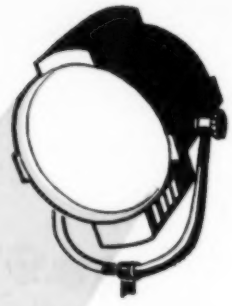
Write us today. We will be glad to work with you to increase your sales and profits with *packages that protect* the maker's reputation.

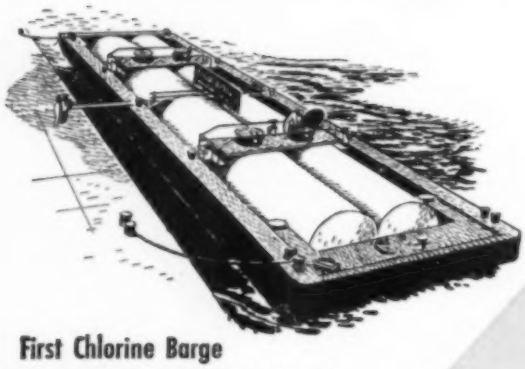
"Meet Corliss Archer" every Thursday evening, entire Coast-to-Coast Network CBS.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO

Columbia Spotlight

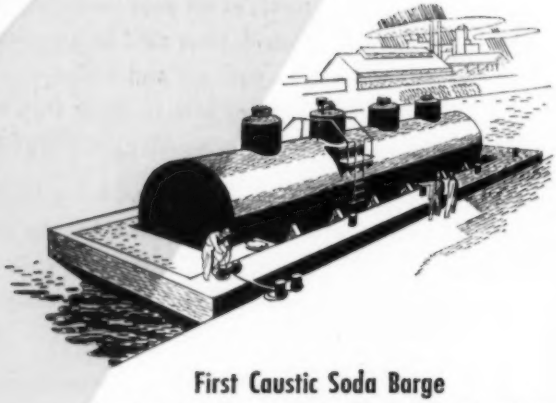




First Chlorine Barge

Newest development in the transportation of Liquid Chlorine is this barge, especially designed by Columbia to facilitate shipments via inland waterways. All river shipments of this chemical were previously limited to one-ton containers—a slow, tedious and costly method by comparison.

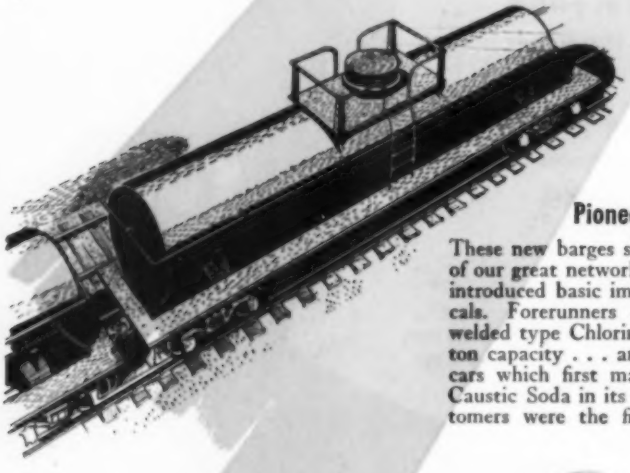
Cradling four fusion welded steel tanks in its 135-foot steel hull, the new barge has a capacity of 380 tons of Liquid Chlorine. It may be loaded or unloaded from either side; connections are so designed as to prevent manifolding of the tanks.



First Caustic Soda Barge

Another 135-foot barge has just been placed in service by Columbia. This one, the first designed specifically for Caustic Soda, will carry approximately 500 tons of Caustic Liquor. Its huge, welded tank is supported by suitable framework in a heavy steel hull.

Foamglas insulation guards the Caustic from freezing and a caustic resistant lining prevents metallic contamination of the chemical in transit.



Pioneer in Better Transportation

These new barges show the way to the more advantageous use of our great network of inland waterways. Similarly, Columbia introduced basic improvements in rail transportation of chemicals. Forerunners of these barges were Columbia's fusion welded type Chlorine tank cars . . . then Chlorine cars of 55 ton capacity . . . and the insulated and specially lined welded cars which first made possible the shipment of 73% Liquid Caustic Soda in its purest form. In every case, Columbia customers were the first to profit by these innovations.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY · COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago · Boston · St. Louis · Pittsburgh · New York · Cincinnati · Cleveland · Philadelphia · Minneapolis · Charlotte · Los Angeles

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash · Caustic Soda · Sodium Bicarbonate · Liquid Chlorine · Silene EF (Hydrated Calcium Silicate) · Calcium Chloride · Soda Briquettes
Modified Sodas · Caustic Ash · Phosflake · Calcene T (Precipitated Calcium Carbonate) · Calcium Hypochlorite

Many a spray has driven many a man to the great outdoors. Granted that the perfume cloaks the odor of the killing agent perfectly—it needn't hang around for hours afterwards. To perfume an insecticide so there's a perfect balance *plus* a hasty departure is difficult—but not for our veteran perfume-chemists who have been doing it for years.

VAN AMERINGEN-HAEBLER INC.

315 FOURTH AVENUE **NEW YORK 10, N. Y.**

DEODOR-SCENTS are a copyrighted MM&R exclusive . . . *exclusively* formulated for use in fly sprays.

With MM&R Deodor-Scents the one major [illegible] of most "bug" sprays, *their typically tell-tale odor,* is removed positively and permanently, and at a cost so low you'll marvel the more at their extraordinary efficiency.

To meet the varied needs of spray manufacturers, MM&R Deodor-Scents are made in two types —

Type A—*To Neutralize and Perfume*
Type B—*To Neutralize Without Perfuming*

Send us your unperfumed product, and an indication of your perfuming budget, and "Deodor-Scented" samples will be returned to you promptly.

It's not a Deodor-Scent if it's not labeled MM&R

MM&R Deodor-Scents
Type A
DEODOR-SCENT B.L.S. MM&R
Delicate Lilac Character
DEODOR-SCENT SWEETGRASS MM&R
Odor of New Mown Hay
DEODOR-SCENT FRUIT BERRY
Light, Berry-Like Scent
DEODOR-SCENT VANILLA MM&R

MM&R Deodor-Scents
Type B
DEODOR-SCENT L 37 MM&R
DEODOR-SCENT No. 801 MM&R
DEODOR-SCENT L 44 MM&R
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Magnus Means Reliability

MAGNUS, MABEE & REYNARD, INC.
SINCE 1895 . . . ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS
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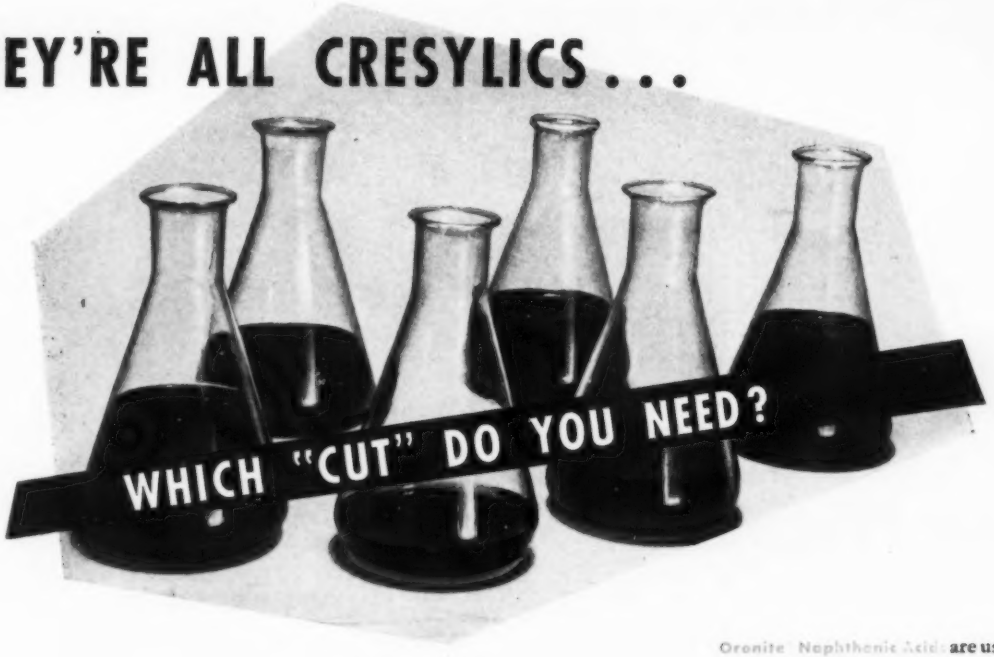
[illegible] Los Angeles: Bruce Cpty. • Seattle, Portland, Oakland: Van Waters & Rogers, Inc. • Canada: Richardson Agencies, Ltd., Toronto

THEY'RE ALL CRESYLICS...



ORONITE CRESYLIC ACIDS offer you the choice of several uniform grades, each having properties which adapt it to special commercial uses. Close control of boiling ranges in the manufacture of each "cut," and uniformity of the petroleum bases from which they are recovered – these are the factors which impart to Oronite Cresylics many important advantages over their coal tar analogues.

The several grades of Oronite Cresylics have found successful application in flotation, phenol-formaldehyde resins, adhesives, plastics, surface coatings, disinfectants, insecticides, detergents and special solvents. Because of their petroleum origin, Oronite Cresylics have over twice the phenol coefficient of the coal tar compounds, and their bactericidal potencies are correspondingly higher. They are also to be preferred as disinfectants because of their appreciably less injurious effect on skin tissue.

Write for laboratory samples and for a copy of our technical bulletin, *"Oronite Cresylic Acids."* This bulletin will provide you with valuable information on the various commercial grades of Oronite Cresylics and their particular applications. Oronite Research Service is at your disposal without obligation.

Oronite Naphthenic Acids **are used in soaps and other detergents, greases, water soluble oils and wood preservatives, and as flotation agents.**

Oronite Sodium Sulfonates, **derived from petroleum sulfonic acids, are used as emulsifiers, emulsion breakers, anti-rust compounds, fat-splitting agents, metal cleaners; in oil emulsions, insecticides and sprays.**

Oronite Wetting Agent, **consisting of selected petroleum sulfonates, is used in textile, paper and pigment manufacturing, leather processing, metal treatment and detergency.**

Oronite Drying Oil Extenders **are neutral unsaturated hydrocarbons suitable for use with all drying oils, in oleo-resinous varnishes, paints, enamels, adhesives, binders and plastics.**

Oroplast* : **an Oronite trade name for sulfur-reactive petroleum products specially developed for use as compounding ingredients for natural and synthetic rubbers.**

*Reg. U. S. Pat. Off.

ORONITE

CHEMICAL COMPANY

Russ Building, San Francisco 4, California... 30 Rockefeller Plaza, New York 20, New York
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ORONITE CHEMICALS

939

Is Your Product A "NATURAL" for COLOR?

● Your products may be more attractive behind the display windows of the right colored Duraglas Container.

Many manufacturers have capitalized on subtle color combinations by using an amber, emerald green, or flint Duraglas jar, or bottle as the best presentation of their products.

Duraglas Container users enjoy the benefits of Owens-Illinois year around, month by month production of amber, emerald green, and flint—moulds can go to the furnace where the right color glows.

It will pay you, no matter what products you package, to investigate the possibilities of an Owens-Illinois Duraglas Container of the shape, sizes, and color that will full dress your products.

OWENS-ILLINOIS GLASS COMPANY

TOLEDO 1, OHIO

Enjoy a "Lift to Living" that is a "Lift to Selling" for products packed in Duraglas Containers—Fred Waring and his Pennsylvanians, every Thursday evening over the entire Blue Network from coast-to-coast. 10 P. M. EWT—9 P. M. CWT—8 P. M. MWT—7 P. M. PWT.

Duraglas
TRADE MARK REG. U. S. PAT. OFF.
CONTAINERS
Give a "Lift to Selling"

Now SERVING THE HOME FRONT...BETTER

VELSICOL AR-50 SPECIAL FOR HOUSEHOLD SPRAYS

Sprays based on AR-50-*Special* meet the exacting specifications for a high quality household insecticide. They are free from unpleasant residual odor . . . have greatly increased effectiveness against a wide variety of flying and crawling insects . . . are harmless to warm-blooded animals . . .

The uniformity of AR-50-*Special* is assured by its production in a modern plant where the strictest scientific practice is followed, and by Peet-Grady tests made at frequent intervals . . . measured by potency (unit kill) per gallon of finished spray, manufacturers will find AR-50-*Special* to be the most economical toxicant to use in their formulations.

Supply today's discriminating market with the superior AA household spray that AR-50-*Special* assures.

Sample and complete information on request.

VELSICOL *Corporation*

GENERAL OFFICES: 120 EAST PEARSON STREET, CHICAGO

VELSICOL

There is
No Standing Still
in Business
—
You Either Go Ahead
or Fall Back
—
Baird & McGuire's
Research Laboratories
Have Brought You

BAC-TROL
B. M. CLEANER
INDU-CIDE
SYNTHETIC GERMICIDES
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And
Will Always Bring You
New Developments First. You Can
Take Pride in having Originals
and not Imitations.
As Ever—At Your Service

BAIRD & MCGUIRE, INC.
St. Louis, Mo. Holbrook, Mass.

SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication National Association of Insecticide & Disinfectant Manufacturers

THE meeting of the National Association of Insecticides & Disinfectant Manufacturers scheduled for St. Louis in June was called off last month, as announced at that time, in keeping with the government edict against large meetings and conventions. Many other meetings in the chemical, drug, cosmetic and allied fields have either been cancelled or are likely to be. Some trade and scientific associations with meetings scheduled for late in the year are holding off formal cancellation awaiting what may be more favorable developments over the next six months.

Even if the war in Europe ends by summer, there is little likelihood of a material improvement in travel and hotel conditions this year. An end to the war in Europe will still mean the transporting of thousands of wounded men whose priority on travel accommodations must continue to top everything else. There is also the possibility that a heavy shifting of troops before the year's end may tax the railroads to a greater extent than ever. All told, the chances of a sufficient change in conditions to permit holding those meetings scheduled for late in the year do not look good.

In the absence of association meetings and the exchange and dissemination of valuable information which they encourage, conduct of association business must of necessity be left in the hands of secretaries, committees and other small groups. Members of associations and of industry generally can rest assured that means to watch over their interests are being provided by the key men of most trade groups and the services which industry receives from its associations will probably be widened rather than lessened.

UP to now, means for the application of insecticides, agricultural as well as household, have not kept pace with the scientific advances in insecticidal materials. The sprayer and duster problem has been kicked around the insecticide industry for years without anything resembling a solution having been unearthed. It took a war to bring out the practical development of the aerosol type insecticide, a development which now seems certain to have a far-reaching post-war effect on insecticide usage. From its war-time evolution, numerous plans for the exploitation of aerosols in the civilian markets are reported awaiting the termination of hostilities, and manufacturers of both devices and materials are said to be ready to "go to town."

In the matter of larger spraying units, particularly the motor driven type, the situation appears to have been fairly well stabilized. Where the greatest difficulties have arisen in the past, and still arise, has been in small hand sprayers for common household or home garden uses. These have represented a knotty problem for both the insecticide industry and the sprayer manufacturer as well. All phases of the problem have been debated,—mostly with inconclusive results. But the chances of getting somewhere, at least in the early post-war years, have now been materially improved. Starting from scratch, a committee of the NAIDM has been working on the problem for the past several months. From these efforts, there is a genuine hope that initial steps toward a solution may come. At least the basic causes of difficulties will be found and corrective recommendations made.

Farm Uses For COAL-TAR DISINFECTANTS

BY

Dr. O. H. Sobell & Dr. M. H. Doner

The J. R. Watkins Co.

AMONG the many types of disinfectants that have been developed for use on the farm, the emulsifiable coal-tar disinfectants find widespread acceptance. It has been assumed that such products are employed chiefly for combatting disease germs and in removing obnoxious odors about the farm and in the home. We have concerned ourselves but little about other possible ways in which such products may be employed. Considering the substantial volume of coal-tar disinfectants sold to farmers every year, it should behoove the seller to understand the end-uses for his product. It has been pointed out that unless jobbers and salesmen understand more of the practical application of disinfectants they are not in a position to sell such products intelligently.

Sensing the desirability of having such data on hand, a questionnaire was sent to 3,500 of our rural dealers enlisting their cooperation in giving us the information desired. Each dealer serves approximately 500 families; hence it is felt that through this means we obtained the opinion of at least 250,000 farmers, very conservatively figured. The response was gratifying. The replies, which were received from all sections of the country, form the basis of the discussion to follow. In no way do all the uses reflect the recommendations of the manufacturer, who confines his recommendations to accepted, established uses. It is characteristic of a farmer to employ a product in a variety of ways. He usually does not concern himself as to whether his special uses would receive official sanction, for he believes that the results of his own tests are sufficient proof of the effectiveness of the product.

The following table gives the various uses and percentages for coal-tar disinfectants (Phenol Coefficient 6) as reported by our investigating dealers.

	Per Cent
Poultry Sanitation	92
For Dipping Stock	75
General Disease Control	55
As a Deodorant	47
As a Disinfectant and Germicide	38
Treating Foot Rot of Stock	30
Screwworm Control	22
Feeding to Hogs (to control Necro)	22
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General Disease Control

BULLETINS issued by State Agricultural Experiment Stations and the United States Department of Agriculture urge farmers to reduce contagious diseases by following a program of sanitation. Not that disinfection will prevent all diseases to which livestock are commonly plagued, for certain diseases may be caused by nutritional deficiencies, improper housing and management, plant poisoning, congenital transmission, the use of infected breeding stock, infection by disease-carrying insects and sundry other causes that cannot be prevented by cleaning and disinfecting. On the other hand, there are many diseases that are spread in unsanitary surroundings and which may be adequately controlled by sanitation. It should be noted that while the mere act of proper cleaning removes sufficient germs to make disinfection unnecessary providing the stock is kept clean and well-fed, disinfection is of chief importance at the time of disease outbreak.

A commentary on the various ways in which coal-tar disinfectants are used on the farm follows:

1. *Poultry Sanitation*—Poultrymen have learned that the most economical method of controlling many diseases is prevention and not cure. The unit value of the bird is too low to warrant individual medication. The treatment of the flock as a whole appeals to poultrymen, hence the popularity of tablets for medicating the drinking water. Contrary to the opinion of certain individuals that such remedies are of no value, we wish to state that products of that sort have been scientifically established and marketed by leading manufacturers of poultry preparations. Likewise, the incorporation of vermifuges like nicotine and phenothiazine into the mash to control roundworms and cecal

worms. On the other hand, sulphur has been administered in the feed or drinking water under the erroneous impression that it is excreted on the skin and destroys lice and mite infestations. The painting of roosts with nicotine solutions to fumigate the hens at night to kill external parasites is an effective, widely employed practice.

Sanitation is of primary importance in successful poultry production. Authorities recommend disinfecting hen houses and equipment regardless of the size and apparent health of the flock. Experiments at the Kansas Agricultural Experiment Station (Bulletin 247) showed that the death loss of 42 per cent of the birds reared under unsanitary conditions could have been reduced to 7 per cent by following a program of cleaning and disinfecting.

It is noteworthy, in our survey under consideration, that the disinfection of poultry houses and equipment comprised the most important end use of the product. It is important,, therefore, that manufacturers give adequate directions for such use, since it is well known that the application of a disinfectant solution on dropping-litter-dust-covered floors and roosts prevents the solution from reaching the germs. The disinfectant solution should be employed away from stored eggs or poultry meat to prevent possible odor-contamination. In addition to destroying disease germs, the ideal poultry disinfectant should be capable of destroying the eggs of parasites that may be present on the ground or in the poultry house. The whole subject of choice of disinfectant and their various uses have been discussed at length in the article "Sanitary Products on the Poultry Farm"* and I refer the reader to this excellent discussion.

2. *Foot Rot*—This is an infection of the hoofs of sheep and goats, long a widespread and serious disease in the United States. In addition to soaking the feet of animals in a 1 to 70 solution of the disinfectant, places where infected stocks are kept are also disinfected to prevent spread of the disease.

3. *Wounds and Cuts* — Mild solutions are frequently used as a wash-disinfectant. Some farmers use the disinfectant undiluted, believing that injury to the tissues is minimized.

4. *Necrotic Enteritis in Swine* —This disease is a malady afflicting a large proportion of hogs throughout the country. It is believed to be caused by a micro-organism, and recent investigations attribute a vitamin-deficient diet as an important factor in its development. It causes an inflammation of the inner lining of the intestines. Young pigs affected become emaciated, lose weight and frequently die. According to United States Department of Agriculture workers, medicinal preparations do not have sufficient merit to be recommended as a specific treatment.

It is interesting to note that a fairly large percentage of dealers reported the use of coal-tar disinfectant for preventing and checking the development of "necro," as the disease is commonly called. The disinfectant is fed in the slop, occasionally in soaked feed. The proportion commonly used is 1 teaspoonful to 5 gallons of slop for each 20 pigs weighing 50 pounds or over. It is asserted by dealers long familiar with this use, that hundreds of cases of "necro" in their localities have been checked with the "dip." Several dealers stated that when farmers so fed this dip once each week, starting from the time the pigs began to eat, no cases of "necro" developed during a period of several years. The results were claimed to be so satisfactory that, in one instance, a local druggist in an Iowa town supplied farmers with a dip, flavored with anise oil. It is impossible to evaluate these claims, however, without critical tests conducted by scientific investigators.

5. *Stock Truckers* — Employ coal-tar disinfectant to prevent spread of disease germs.

6. *Sore Shoulders on Horses*— A 50-50 solution of the disinfectant is used. Farmers claim this solution "can't be beat" for this purpose.

* Soap, 1941 17 (5) :90-93.

Use As a Stock Dip

VARIOUS types of dips are recommended for dipping stock to control ticks, lice, mites and fleas. These include the arsenical, nicotine, lime-sulfur, creosote, and coal-tar creosote dips, each of which has special characteristics that limit its usefulness to certain types of parasites.

Coal-tar creosote for cattle lice and sheep ticks, long recommended by the United States Department of Agriculture, is familiarly known as "Stock Dip" or "Liquid Dip." Such preparations are comprised of creosote oil which frequently contains substantial amounts of naphthalene and anthracene along with other toxic fractions derived from the coal-tar distillate in the temperature range from 200° to 400° C. When diluted with water for dipping stock, the solution, it is held, should contain not less than one per cent by weight of coal-tar oils and cresylic acid.

Notwithstanding the fact that stock dips properly refer to the type of product having the characteristics just described, many gallons of emulsifiable tar-acid oil disinfectants are employed by stockmen for dipping animals. Without reference to results obtained, it is of interest to compare such a product (one having a phenol coefficient of six, for example) as against a "Stock Dip" officially recommended for dipping. The chief difference is that the tar acid oil employed in making these disinfectants lies within a boiling range of 210° to 300° C. and, while phenol, cresols and xylenols are present, the naphthalene is removed by a process of chilling.

It would appear that the coal-tar disinfectant as such would be less effective as a parsiticide than the coal-tar creosote dips that contain significant percentages of naphthalene and anthracene which are known to be toxic to insects.

Screw Worm Control

THE application to cuts, wounds and other injuries of chemicals that destroy the blow fly larvae and at the same time repel the adults to prevent oviposition or egg-laying, is a common practice among stockmen. When the proper chemicals are used, such as pine tar or the "Smear 62" which is recommended by the United States Department of Agriculture, good control is achieved. Our survey shows the interesting fact that coal-tar disinfectants are quite commonly used for this purpose and the writer has been informed by many dealers in the south that "good results" may be expected. The product is usually applied undiluted since it is believed that less irritation occurs than when it is applied diluted with water. Dealers claim that the maggots are killed, although slowly. The chief value of these applications, like that of pine tar, is to prevent screwworm infestations by repelling the flies. It is probably not very effective as a larvicide.

For Plants

FRUIT TREES—During the past decade tar distillate sprays have become prominent as dormant sprays or "winter washes" in the United States, a result of earlier experiences in Germany and England with similar types of materials. They are recommended for apple, cherry, plum, specifically for destroying the over-wintering eggs of aphis and certain moths, European Red Mite and certain scale insects. It is necessary that we understand briefly the chemical composition of these sprays. Coal-tar is a mixture of hydrocarbons, of which these types are distinguished:

1. Acidic (containing phenols, cresols and xylenols);
2. Basic (containing the pyridine and quinoline groups);
3. Neutral (comprised of benzine, naphthalene and anthracene).

Since tar-distillate sprays are ovicidal in action, we must relate chemical constitution to toxicity. English workers had found that tar-distillates, having a boiling range of 280°-360° F., are most effective in destroying eggs but investigations in the United States have shown that fractions having a boiling range of 200° to 270° F. are extremely toxic to aphis eggs. Coal-tar derivatives of the acidic group were found by the New Jersey Station to be toxic, hence the basis for its recommendation of crude cresylic acid as a dormant spray.

The Virginia Station suggested standardization whereby tar distillate for spraying purposes will lie within the range of 225° to 400° C., with the naphthalene and anthracene removed so that the oil will be free from solids when exposed to a temperature of 40° F.

Because of the superficial similarity of coal-tar disinfectants to the tar-oil sprays on the market it is not surprising that some orchardists have wittingly or unwittingly employed coal-tar stock dips and disinfectants as fruit tree sprays. This was first brought to the attention of the J. R. Watkins Company in 1935 when several dealers reported that considerable quantities of coal-tar disinfectants were being used by fruit growers as a dormant spray in Michigan, New York and neighboring states. The commentary of one writer is that it is the orchardists' apparent consensus of opinion that the use of such materials affords a high level of control more economically. Many orchardists who used coal-tar disinfectant as a fruit tree spray in a small way on an experimental basis have repeated with increased orders as they are generally convinced of results. That situation existed in 1937. In our present survey it is of interest to note that many orchardists continue to employ coal-tar disinfectants. Aside from the work of Ginsberg on the toxicity of the acidic coal-tar hydrocarbons, the writer is not aware of any scientific studies involving a tar-oil disinfectant as such, and until such evidence is at hand it would seem best to postpone judgment and to refrain from making recommendations in this direction.

There has also been a marked interest shown by many orchardists in the use of coal-tar disinfectants as spreaders and stickers for lime-sulfur and for arsenate of lead sprays. The fact of the matter is that coal-tar disinfectants are chemically incompatible with these spray materials. When used with lime-sulfur, the soluble polysulfides of calcium react with the soluble soap forming a calcium soap that results in

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POSTWAR USES FOR DDT

*by F. C. Bishopp**

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DDT has captured the imagination of the public as has no other insecticide. This is due in part, at least, to war conditions, partly to rumors and exaggerated statements that have been widely circulated, and partly to the unique inherent qualities of the material. The present war has stimulated an unusual interest in all insecticides, for several reasons. All of us are concerned about the health and comfort of our boys fighting in many quarters of the globe and under disease conditions worse than in any previous struggle. The high incidence of malaria in our early experiences on Bataan and Guadalcanal naturally causes everyone to give thought to insect control. Shortages of many of our standard insecticides, such as pyrethrum and rotenone, and prospects of shortages of others caused those concerned with food production to become anxious. People accustomed to buying effective insecticides for use against common household pests and against fleas, lice, and ticks on pet animals could not find their favorite brands on shelves, or they failed to find any at all. Entomologists and insecticide manufacturers began an almost frantic search for materials to use as substitutes for the insecticides upon which for years the public had come to depend. Information on DDT and its employment against insects affecting man was restricted because of its military use, and secrecy always stimulates interest.

DDT is a designation, based on the generic name dichloro-diphenyl-trichloroethane, of the synthetic organic compound 2,2-bis (P-chlorophenyl) - 1,1,1-trichloroethane. The compound was first made by Zeidler in Germany in 1874, but it was apparently made no use of whatever until about five years ago when the Geigy Company of Switzerland, in testing a large number of synthetics for mothproofing properties, found it to have insecticidal powers.

Chemically pure DDT is a crystalline solid, practically colorless and odorless. It is rather stable and volatilizes slowly. Although almost insoluble in water, it is readily soluble in most organic solvents.

The announcement early in 1942 by Wiesmann in Switzerland that DDT used in certain compositions was effective against a number of agricultural pests was not widely circulated. However, soon after Geigy Company, Inc., of New York received some of the material from Switzerland and put it in the hands of chemists and entomologists of the Bureau of Entomology and Plant Quarantine in the fall of 1942, its outstanding insecticidal qualities became known in this country. Initial experiments with DDT insecticides against body lice at the Orlando (Fla.) laboratory of the Bureau and against the codling moth at the Beltsville (Md.) Research Center were so encouraging that experimental work was begun in a number of the Bureau laboratories in various parts of the country. These experiments involved a number of the insects of outstanding importance to the military as well as many agricultural and stored-products pests.

There are many steps to be taken from the discovery that a material will kill insects to its recommendation by governmental agencies and its adoption by the public. First some idea must be gained of its effectiveness against a number of insect species. Other factors that must be determined are acute and chronic toxicity to plants and animals when applied in various concentrations and formulations, and the effect on soils, fabrics, metals, and equipment, including devices used for applying it. The effective strengths and the best form of the insecticide for use against different types of pests under varying climatic and other conditions must then be studied. If a material is toxic to animals or man, the danger of residues in water or on plants must be fully explored and methods of removing objectionable residues developed. It is also necessary to determine the dangers of upsetting the biological balance by the widespread use of an insecticide. This means its effect on pollinating insects, insect parasites and predators, fish, and other beneficial forms of life. In addition there are innumerable problems in manufacture, standardization, packaging, labeling, and distribution. Carrying any material through these steps requires painstaking work and much time.

The urgency for additional and more effective insecticides, especially for the armed forces, was so great as to cause the Bureau of Entomology and Plant Quarantine and later a number of State agricultural experiment stations, the U. S. Food and Drug Administration, the National Institute of Health, and other agencies to give a prominent place to DDT in their research programs. The extensive research work of the Florida laboratory, Orlando, of the Bureau of Entomology and Plant Quarantine on military as-

* Address before Engineering Section, Amer. Public Health Assn., New York, Oct. 5, 1944.

pects of the problem was made possible by funds provided by the Office of Scientific Research and Development at the recommendation of the Committee on Medical Research of the National Research Council. The research work of the Bureau soon defined a field of military uses for DDT. To meet this demand the War Production Board took steps to stimulate production by interesting chemical companies in its manufacture and aiding them in the procurement of equipment and supplies. The manufacturers also cooperated heartily in the production. As a result of this concerted effort we are further along on the DDT program in two years than we would be in triple that time in the usual development of a new insecticide.

Military uses have thus far required the entire supply of DDT, even though production figures are rapidly climbing. The extent and diversity of these uses have been expanding along with the production, and it is probable that those demands will continue to increase until the war is over. No doubt during the immediate post-war period the need for insecticides will be acute. Large populations have been reduced to dire poverty, and lowered nutrition and neglect have increased insect abundance and opportunities for disease epidemics. DDT appears to be one readily available tool to help the world pull itself out of this dangerous position.

Numerous popular articles have extolled DDT as an insecticide and created a tremendous potential demand for it. Those who have been carrying on the research do not feel that all the necessary steps in the development of an insecticide for civilian use have yet been taken. Work is being pressed, however, with the hope that sound recommendations can be made as soon as production exceeds military demands.

The insecticidal action of all synthetic organics is highly specific. DDT, undoubtedly, is effective against a greater range of insect species than any synthetic organic insecticide heretofore developed. However, it is not universally effective when used in practical dosages. For example, it is not effective against the cotton boll weevil, the cotton leaf worm, and the Mexican bean beetle.

DDT is toxic to man and animals when ingested in considerable quantities or applied to large areas of the body in the form of an oil solution. Its acute toxicity is distinctly less than that of many insecticides now in use, but its persistence, which makes it so valuable as an insect killer, must be considered from the standpoint of chronic toxicity to man and other animals. Furthermore, the fact that DDT is highly poisonous to fish and many beneficial insects must be considered in making recommendations for its use. Despite these objectionable features, it is reasonable to suppose that DDT will find a very important place in human economy.

THE title assigned indicates that you may desire some comment on the post-war usages that may be envisioned on the basis of our present knowledge and experience. *The following statements must be regarded as somewhat speculative and not as definite recommendations.* They are based mainly on the notable research carried out by the entomologists and chemists in laboratories of the Bureau of Entomology and Plant Quarantine.

For the human race to continue to harbor a parasite that has brought the annoyance, suffering, and death that has been inflicted by the body louse is a serious indictment. This parasite, which can live and propagate only on man, can be readily eliminated by the adoption of proper procedures. DDT is so effective in louse control when applied as a powder with certain carriers or by impregnation of underwear, that encouragement is lent to programs looking toward the eradication of the pest. Systematic treatment of infested populations with a view to complete eradication of lice, and with them louse-borne typhus and relapsing fever, would appear to be a practical and highly desirable post-war program.

Horseflies and blowflies play such an important role in the carriage of parasitic worms, and of organisms causing dysentery, typhoid, cholera, and other diseases, that better control measures are urgently needed. Rural populations suffer most from fly annoyance and fly-borne diseases. The contamination of dairy products and other foods by flies frequently endangers the health of those not themselves exposed to flies.

DDT is highly effective against flies. It is a rather slow but deadly poison to these insects. The crystalline deposit remaining on the walls sprayed with a solution of DDT in kerosene is active for months in killing the flies that alight upon and crawl over the surfaces. This method of attack will mean a big timesaver for farmers and others. Spraying started early in the season may go a long way toward controlling flies even though breeding places are not promptly cared for. DDT may also prove to be a safe and effective material for treating manure and other fly-breeding media.

Stableflies, or dog flies, are extremely troublesome pests of livestock as well as of man. The residual effect of DDT applied to barn walls and corral fences will probably control these insects to a considerable degree. Applied in this way its effect would supplement the killing action of the spray when applied to livestock for the control of horn flies, against which it is giving an excellent account of itself experimentally.

In the field of mosquito control DDT is expected to serve a useful purpose in protecting the health and comfort of man. Research on problems involved in military operations and experience in its field application should furnish information which, when adapted to civilian conditions, will be of great value in post-war health work. When applied as a spray or aerosol, the effectiveness of DDT against adult and larval mosquitoes has been fully demonstrated. Much remains to be done to perfect methods of application and equipment entirely suitable for all purposes. Engineers should play a prominent part in this undertaking. The use of aircraft for disinsectizing large areas no doubt will be extensive. The idea of eradicating malaria from the United States has been advanced

as a post-war undertaking. DDT may well play a large part in any local or general effort toward that commendable objective.

In connection with campaigns against mosquitoes, especially house-inhabiting species such as the malaria mosquito of the Southern States and the yellow-fever mosquito, sprays applied to the interior of buildings for the purpose of leaving a lasting deposit of DDT should have an important place. The aerosols developed by the Bureau of Entomology and Plant Quarantine will doubtless also be popular as well as highly effective weapons. The inclusion of DDT in the aerosol solution increases its usefulness as a general insecticide. The value of the aerosol bombs has been convincingly demonstrated in every war theater. Since many of our fighting men have witnessed this demonstration, they will demand aerosol bombs for home use after the war, and this will probably lead to additional requests for licenses to manufacture aerosols under the patents assigned to the United States Department of Agriculture. Certainly aerosols will be widely used to prevent dangerous insects from being transported in connection with the increased and rapid movement of people and cargoes by aircraft and ships from one quarter of the globe to another.

The bedbug, although not a proved disease transmitter, is a troublesome pest that is effectively controlled by the use of DDT as a spray. Surprisingly enough, one thorough spraying of a bed and mattress with a proper formula will accomplish the destruction of every bedbug that crawls over it for several months following the treatment.

Preliminary tests of DDT against a number of destructive forest insects, such as the gypsy moth and the spruce budworm, indicate that it may prove extremely valuable in checking spread and outbreaks, and in protecting especially valuable stands of timber. For such purposes application by aircraft is the most practical. DDT has a distinct advantage over other insecticides because of the small amount that is required and the consequent greater acreage that can be covered with a plane load, and also because of the persistence of its insecticidal effect. Application of DDT from the air appears to be a promising means of preventing the depredations of forest insects in recreational areas, and at the same time destroying many annoying and disease-bearing insects in the treated areas.

The importance of adequate nourishment and proper protection of the body in maintaining a high level of health and productivity is recognized. Insects sabotage our food and fiber crops. It is believed that DDT will ultimately play an outstanding role in safeguarding many of them against insect damage and thus in aiding economical production of high-quality food crops, meat, dairy products, cotton, mohair, and wool.

Preliminary tests of DDT as a dip for controlling lice on livestock have shown promising results. Possibly the residual effect of one application by dipping may be sufficient to eliminate these pests from a flock or herd. This would be a great boon to stockmen, since rounding up and dipping herds and flocks several times, as is now necessary, is expensive and troublesome.

The impression should not be left that in DDT we have a panacea for all ills due to insects. Other standard insecticides will continue to be extensively used, and new insecticides doubtless will be developed. Nor is the use of insecticides the only means of fighting the insect hordes. Elimination of breeding places, changing the environmental conditions to make them unfavorable for insect propagation, and many other lines of attack are open to us. All these methods must be used if we are to deal effectively and economically with the many insect problems that confront us. The full cooperation of the entomologist and the engineer, whether civil, sanitary, mechanical, aeronautical, or chemical, must be realized if we are to wage the most effective war against insects and disease transmitted by insects.

FARM USE OF DISINFECTANTS

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a flocculent, colloidal mass which gradually precipitates. Some orchardists add water softener to the water to obtain a stable emulsion for spraying. In this instance the cleanser reacts with the lime sulfur to produce calcium phosphate which is also insoluble in water but does not readily settle out. Other reaction products, such as sodium sulfide and sodium polysulfide, are produced, of which the former is toxic to foliage.

The addition of coal-tar disinfectants to lead arsenate sprays causes the formation of soluble arsenic which is quite toxic to foliage. When such materials are used together growers usually add hydrated lime to reduce plant injury.

Because of the early publicity given to stock dips for combatting insects on fruit trees, it would be expected that other applications would be made with reference to insect control on plants. The survey proved this to be true. Several growers reported that 1-70 solutions effectively controlled potato "bugs" with no danger to the vines. Others described applications to citrus trees to control certain types of fungus rots, for cotton insects, and for dipping the roots of cabbage and tomatoes at transplanting time. A number of dealers believe stock dip to be efficacious in treating seed prior to planting to repel wireworms, crows, etc.

Miscellaneous Uses

COAL-TAR disinfectants lend themselves well as a disinfectant-deodorant for treating outside and indoor toilets, garbage cans, urinals, gutters in stock barns, hog pens, rabbit hutches, cesspools and sewers, etc. Housewives add it to scrubwater for general housecleaning.

To repel flies from stock many farmers spray with a solution comprised of equal parts of "dip" and crank-case oil, or more often, just dip and water. It should be noted that while such applications are effective and were widely used years ago, most

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ROACH CONTROL TESTS

BY

George E. Gould

STUDIES on the effectiveness of various chemicals against the German cockroach have been continued during the past year. Information from previous tests have been published (1, 2) and data obtained since that time as well as results of other workers are included in this report.

The insecticide supply situation has remained about the same during the past year and will probably continue for some time. The supply of sodium fluoride has been adequate in most instances and shortages were a matter of distribution rather than of scarcity of material. Pyrethrum powder is still unavailable for civilian use, although a few companies have had some on hand for special purposes. Phosphorus paste is readily available, as are sodium fluosilicate, boric acid and borax. The only shortage reported during the past few months has been that of pyrophyllite, although supplies of this material are now adequate for all purposes.

The method of testing the various materials reported in this paper has been published previously (1). The technique consisted of allowing the dust materials to settle on the floor of a box in a double-walled settling chamber for eight minutes and then allowing adult German roaches to run through the dust film in the box for another eight minutes. Five roaches were used in each test, and at least 10 tests were run on males and 10 on females for each material. Observations to determine the mortality and survival time were made at regular intervals for 96 hours for most materials, although boric acid, borax and mixtures containing them were run for 240 hours.

* Approved for publication by the Director of Purdue University Agricultural Experiment Station. Delivered before Natl. Pest Control Assn., Chicago, Oct. 25, 1944.

Table 1. The mortality and survival time of adult German roaches when treated in a dust settling chamber with three commercial brands, both white and nile-blue colored, and a finely ground sample of sodium fluoride.

25 per cent of the following samples of sodium fluoride diluted with 75 per cent of pyrophyllite	*Per Cent kill in 96 hours*		*Survival time in hours*	
	Male	*Female*	*Male*	*Female*
1. Brand H, white	100	70	16.0	50.3
2. Brand H, nile-blue	100	82	45.3	68.0
3. Brand L, white	94	56	52.5	78.1
4. Brand L, nile-blue	98	62	51.4	66.8
5. Brand G, white	100	71	23.3	54.7
6. Brand G, nile-blue	100	76	21.5	61.8
7. General, white, Raymond-milled	100	98	8.9	38.0

Sodium fluoride is still the outstanding choice for the control of all roaches, especially the German species. In previous laboratory tests using the above method it was found that samples of sodium fluoride and sodium fluosilicate of the smaller particle size (3 to 10 microns) gave a higher percentage of kill and in addition killed in a shorter time (1). During the past year further tests have been made with samples of commercial sodium fluoride from the three large manufacturers of this product. Both the white and the nile-blue materials were compared with a finely ground (Raymond-milled) white sample. Results given in table 1 indicate that the colored fluoride was somewhat better than the white from the same company, but no sample approached the efficiency of the finely ground material. The products of one company gave somewhat poorer results in these tests, although the differences were probably not significant.

The effectiveness of an insecticide is frequently affected by the diluent used with it. A finely ground sample of sodium silicofluoride was combined with equal parts of eleven common diluents and each mixture was tested on the German roach. Results of these tests were somewhat variable, but indicate that no diluent was outstandingly better than the others.

One of the dextrines tested showed a higher percent kill of females and a shorter survival time for both sexes. Bentonite was definitely inferior.

Table 2. The mortality and survival time of adult German roaches when treated in a dust settling chamber with a finely-ground grade of sodium silicofluoride mixed with equal parts of various diluents.

50 per cent sodium fluosilicate mixed with 50 per cent of the following diluents	*Per Cent kill in 96 hours*		*Survival time in hours*	
	Male	*Female*	*Male*	*Female*
1. Pyrophyllite	98	80	39.9	64.5
2. Bentonite	98	60	56.8	78.6
3. Walnut shell flour	100	84	34.4	61.7
4. Schundler clay	100	82	44.5	70.7
5. Loomis talc	100	82	42.0	61.7
6. Hoosier starch	100	71	28.6	67.1
7. Starch No. 3F Special	100	73	33.9	62.2
8. Dextrine 4791	100	89	25.5	61.3
9. Dextrine 4320	98	74	32.8	57.7
10. Frianite	100	82	29.3	60.4
11. Fuller's earth	100	82	40.4	62.9

Table 3. The mortality and survival time of adult German roaches when treated in a dust settling chamber with borax and boric acid, both alone and in combination with other materials.

Composition of dusts	Number of days mixed	Per Cent kill in 240 hours*		Survival time in hours	
		Male	Female	Male	Female
1. Borax	——	64	58	186.5	189.2
2. Boric acid	——	95	92	140.0	147.0
3. Boric acid 50-P. marc 50	1	100	96	77.3	108.5
4. Boric acid 50-P. marc 50	10	100	83	134.5	168.9
5. Boric acid 50-P. marc 50	27	100	86	55.0	130.0
6. Boric acid 50-P. marc 50	48	100	85	60.0	70.0
7. Boric acid 50-P. marc 50	78	100	100	91.8	139.5
8. Boric acid 50-Marc D 50	1	100	93	126.8	162.8
9. Boric acid 50-Marc D 50	26	100	100	49.4	56.9
10. Boric acid 50-Marc D 50	66	100	89	77.5	133.1
11. Boric acid 50-Marc D 50	109	100	100	102.5	99.1
12. Boric acid 45-P. marc 50-dinitroanisole 5	40	100	100	30.1	70.1
13. Powell pyrethrum marc*	——	57	10	42.7	——
14. Spent pyrethrum D*	——	11	0	——	——

* These two materials in 96 hour tests.

Borax has been widely used for roach control, but little research has been done with it to determine its actual value. Results reported last year (1, 2) indicated that boric acid gave a better kill of German roaches than did borax, although in the four-day testing period used, the mortality was low with both materials. This year the treated roaches were kept under observation for 10 days and the resulting kill was much higher. Boric acid was again better as shown in table 3. Two samples of pyrethrum marc were added to boric acid and the resulting mixtures gave some unusual results. The freshly mixed dusts gave a somewhat better kill than the boric acid alone and after standing 30 to 90 days gave a quicker kill.

Dinitroanisole gave promising results in previous tests (1, 2) and was tried again, both alone and in combination with pyrethrum marc and boric acid. A 10 per cent mixture of this chemical in pyrophyllite gave a 71 per cent kill of female German roaches, while the addition of 25 per cent marc to the mixture increased the kill to 93 per cent. A mixture containing only five per cent dinitroanisole and 25 per cent marc gave a 70 per cent kill of females, while increasing the marc content to 95 per cent increased the kill to 78 per cent. All mixtures of dinitroanisole and marc gave a perfect kill of males, but only the 20-80 mixture and the 5-50-45 mixture, with boric acid added, killed all females. The related chemical, o-Nitroanisole, gave poor results at a 4 per cent dilution in both marc and pyrophyllite, but 10 per cent in marc killed all males and 18 per cent of the females.

Table 4. The mortality and survival time of adult German roaches when treated in a dust settling chamber with mixtures containing some new insecticides.

Mixtures	Per Cent kill in 96 hours		Survival time in hours	
	Male	Female	Male	Female
1. Dinitroanisole 10-pyrophyllite 90	100	77	30.6	52.9
2. Dinitroanisole 5-p. marc 95	100	78	20.4	62.4
3. Dinitroanisole 10-p. marc 90	100	82	20.9	41.3
4. Dinitroanisole 20-p. marc 80	100	98	15.6	47.7
5. Dinitroanisole 10-marc 25-pyrophyllite 65	100	93	15.5	46.8
6. Dinitroanisole 5-marc 50-boric acid 45*	100	100	30.1	70.1
7. Commercial N-H roach powder	100	97	14.5	43.0
8. o-Nitroanisole 4-pyrophyllite 96	0	0	——	——
9. o-Nitroanisole 4-p. marc 96	37	0	60.0	——
10. o-Nitroanisole 10-p. marc 90	100	18	26.3	44.0

* Tests ran for 240 hours.

The new insecticide, DDT or 2, 2-bis (parachlorophenyl) 1, 1, 1-trichloroethane, was tested in October and November, 1943, and found to give good results at dilutions of 10 and 25 per cent. In 1944 two commercial mixtures, "Gesarol A3" with three percent DDT and "Gesarol A20," a spray material in powdered form with 20 per cent DDT, were tested. The 20 per cent mixture gave good results, while the three per cent material was not satisfactory. In all tests with this chemical the roaches were down in 12-hours or less, but in many instances were still actively kicking at the end of the tests (96 hours).

A number of other organic chemicals were tested against the German roach. Two mixtures used by the military forces as louse powder gave excellent results in these tests. The composition of these mixtures is not known for certain, but one, number 2 in table 5, and perhaps the second, number 3, were thought to be the MYL formula containing pyrethrum extract and two per cent dinitroanisole. Other materials that gave good results were two commercial dusts, "Lethane A70" and "N-H" roach powder. In laboratory tests the "Lethane" dust killed all roaches in a shorter time than either sodium fluoride or pyrethrum powder. In the field, however, it has failed in some instances to give a complete clean-up of roach infestations. This failure to kill all roaches on a premise was thought to be due in part to the repellent action of the powder, so that the roaches not killed by the initial coverage were repelled and did not run through the powder. This material was found to be irritating to the operator. The "N-H" mixture contains pyrethrum marc and a nitrated hydrocarbon and has given good control in the laboratory. A specially ground mixture of phenothioxin and bentonite did not give as good results as the mixtures used last year. A dust mixture containing five per cent dimethyl phthalate gave a fair kill in the laboratory, but a 10 per cent mixture was less effective.

Various combinations of pyrethrum and of pyrethrum marc with

sodium fluoride and dextrine were again tested, but in this instance also little or no synergistic effect was noticed. Marcovitch and Stanley (10) found that an acid type of dextrine used with sodium fluoride and pyrethrum had an activating effect and consequently the amounts of the insecticides in the mixture could be greatly reduced. In these tests as in previous ones the addition of pyrethrum to sodium fluoride greatly improved the kill, while the further addition of dextrine had little noticeable effect upon the results. Pyrethrum marc did not have the synergistic effect on sodium fluoride that was exhibited by the high grade powder, but did activate the roaches.

A number of materials were tried in preliminary tests and were dropped because of the poor results with them in the laboratory. Sodium pentachlorophenate could not be used in the dust chamber because of its irritating properties and gave a poor kill with the dust ring method. It did show, however, some promise when used in water as a bait. In the settling dust method the following materials were found to be of little value: "Spraykast," o-nitroanisole, triphenylstibine, diphenyl, diamylphenol, sodium fluoborate, ammonium fluoborate, "Lethane 60," and indole.

A NUMBER of articles on roach control have appeared in the past year, but most of them have been on the new chemical, DDT. The results reported in the use of this chemical are somewhat conflicting, as for example, Rohwer (14) stated that tests show DDT is not effective against the German roach, while the Geigy Company (6) and Froelicher of that company (3, 4) reported that both German and American roaches were successfully controlled. McGovran *et al.* (9) reported that this chemical in kerosene as a spray was less effective than a pyrethrum spray; that a three per cent dust was equivalent to 0.66 per cent pyrethrins on German roaches but less effective on American roaches; and that a 10 per cent dust was less effective than pure sodium fluoride. Gahan and Knipling (5) reported that a DDT-oil spray was effective against roaches at an army base; that a water spray decreased the numbers of German roaches in a theater; that a 2 per cent oil spray killed roaches and flies in a dairy; and that in laboratory pens a 5 per cent dust killed all American roaches in 72 hours, whereas a 60 per cent mixture of sodium fluoride required 144 hours. Morrill (13) mixed DDT with dog food and when fed to roaches a one to 50 mixture killed 76 per cent of the German and 96 per cent of the American roaches in 10 days. Ginsburg (7) obtained a 100 per cent kill of the German roach in 48 hours with a seven per cent DDT dust, and claimed this material was five times more toxic than sodium fluoride.

Monro (11) and Monro *et al.* (12) conducted some tests in Canada using a pyrethrum aerosol bomb against German roaches in a washroom and in a railway dining car. The material drove out the roaches and knocked down some similar to a pyrethrum spray. They concluded that the aerosol bomb offered some promise in keeping down the roach population in restricted areas, but applications would have to be repeated at weekly intervals. McGovran (8) *et al.* reported that a pyrethrum-oil spray knocked down German roaches quicker but gave a higher kill of the American roach.

Swingle, Phillips, and Gahan (15) tested several hundred synthetic organic compounds on a number of different insects during the past eight to ten years and found 63 that showed some promise against the American roach.

Summary. Sodium fluoride dust for all species of roaches and phosphorus paste for the large species of roaches are still the standard treat-

(*Turn to Page* 121)

Table 5. The mortality and survival time of adult German roaches when treated in a dust settling chamber with mixtures containing some organic chemicals.

Mixtures	*Per Cent kill in 96 hours* Male	Female	*Survival time in hours* Male	Female
1. Pyrethrum 30-pyrophyllite 70 (0.17 per cent pyrethrins)	100	92	22.4	56.6
2. MYL Army louse powder	100	100	35.2	64.2
3. Army louse powder	100	100	5.2	17.5
4. Lethane A70 roach powder	100	100	2.4	7.0
5. N-H roach powder	100	97	14.5	43.0
6. Phenothioxin 50-bentonite 50	58	42	48.8	48.1
7. Dimethyl phthalate 5-Celite 25-pyrophyllite 75	85	40	58.9	71.4

Table 6. The mortality and survival time of adult German roaches when tested in a dust settling chamber with sodium fluoride, pyrethrum, pyrethrum marc and mixtures of these materials.

Materials	*Per Cent kill in 96 hours* Male	Female	*Survival time in hours* Male	Female
1. Powell pyrethrum marc (0.134% pyrethrins)	57	10	42.7	——
2. Spent pyrethrum D (0.15% pyrethrins)	11	0	——	——
3. Pyrethrum 30-Pyrax 70 (0.17% pyrethrins)	100	92	22.4	56.6
4. Sodium fluoride 10-Pyrax 90	80	56	44.9	45.5
5. Sod. fluoride 10-Pyrax 10-Dextrine 80	92	68	28.0	39.8
6. Sod. fluoride 5-Pyrethrum 10-Pyrax 85 (Pyrethrins 0.04%)	100	98	12.3	21.6
7. Sodium fluoride 5-Pyrethrum 10-Pyrax 10-Dextrine 4320 75	100	92	13.5	30.8
8. Pyrethrum 20-Dextrine (4320) 70-Pyrax 10 (0.08% pyrethrins)	100	76	27.9	57.3
9. Marc D 40-Sodium fluoride 10-Pyrax 50	100	98	13.8	16.9
10. Pow. Marc 20-Sodium fluoride 5-Pyrax 75	84	36	19.2	53.1
11. Marc 20-Sod. fluo. 5-dextrine 75	60	12	18.0	72.0
12. Marc 10-Sodium fluoride 5-Pyrax 85	58	8	50.4	——

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PYRETHRUM CULTURE

NOTES ON EXPERIMENTS WITH PYRETHRUM GROWN ON SOIL AND IN CULTURE SOLUTION

By Jethro S. Yip[1]

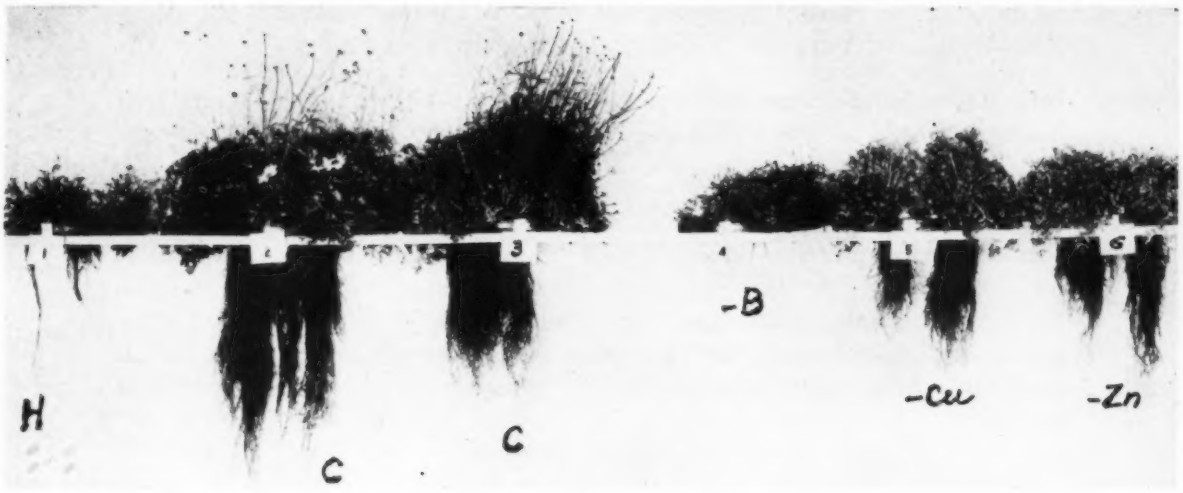

Fig. 1—Pyrethrum in culture solution without minor elements 1937.

THE growing need for new types of insecticides more efficient than present forms, cheaper to apply and with the minimum amount of spray-residue, has stimulated a search, for the last twenty-five years, for new insecticide materials which will prove to be more efficient and at the same time non-poisonous to man and animal. There are at present three plant products[2] of known insecticidal value in general use. These are: nicotine, a liquid alkaloid from *Nicotiana tabacum* L; rotenone, a crystalline ketone from the roots of various species of Derris, Lonchocarpus, Tephrosia and Mundulea; and pyrethrins, non-poisonous esters, chiefly from the flowers of pyrethrum[3] (*Chrysanthemum cinerariaefolium* Bocc.). Pyrethrum and derris are practically harmless to man, but unfortunately both are imported. Prior to World War I, the main commercial source of pyrethrum was Yugoslavia, but shortly thereafter Japan became the world's greatest producer, supplying 83 to 93 per cent of American needs. Our imports of pyrethrum from Japan amounted to approximately 2.5 million pounds in 1923 and had increased to 20 million pounds by 1937. Beginning in 1939, the British Kenya Colony in Southeastern Africa started to replace Japan as our chief supplier of pyrethrum. Japan's loss of the American market was not entirely due to war time conditions, but also to their increased home consumption. The replacement of Japanese by Kenya flowers has also been a matter, not of quantity, but quality. Kenya flowers test much higher in pyrethrin content than the flowers formerly received from Japan and are also lower in moisture. Kenya flowers are guaranteed to test 1.30 per cent total pyrethrins on arrival in United States as compared with Japanese flowers which, on the basis of undependable Japanese laboratory reports, used to test only 0.9 per cent in Japan. In moisture content Kenya flowers run only about half the normal Japanese flower content of 15 per cent.

Since nearly all the pyrethrum used in the United States is imported, this fact alone is sufficiently important

[1] This work was conducted while connected with the Division of Plant Nutrition, University of California, Berkeley, California, 1937-1941, and since June, 1941, the author has been connected with the Chemical Division of the Twining Laboratories, Fresno, California.

[2] Other plant products of known insecticidal value but not in general use, are: hellebore, sabadilla, cinchona and anabasine, the last one of which was synthesized before it was definitely known to occur in nature.

[3] Pyrethrum used hereafter unmodified means C. cinerariaefolium, the only species of commercial importance.

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Fig. 2. Culture-grown roots A Soil-grown roots B and C

to warrant an investigation into the possibilities of domestic production as a long-range view of aiding national self sufficiency and economy, and also safe-guarding the following:

(a) to insure some future measure of independence of supply

(b) to break any monopoly

(c) to protect against any sudden shortage which might be caused either by unforeseen economic or political disturbance.

Farliest attempts (1870) at domestic production of pyrethrum were made by the Buhach Producing and Manufacturing Company at Atwater Station, Merced County, California, but its field operations had to be discontinued (1886) chiefly due to high cost of production which required hand picking of the flowers. In 1926 the author, in charge of the California Spray-Chemical Company's semi-commercial planting located at Natividad, California, found that extracts made from these domestic open flowers were as toxic and in many cases more toxic[4] when sprayed on houseflies than were those made from closed flowers, which is decidedly contrary to world-wide and long-held opinion of pyrethrum users.

Unfortunately, the culture of pyrethrum under ordinary field conditions requires considerable hand labor, especially in the harvesting of the crop, and this alone would make such a venture nearly prohibitive in this country where our wage scale is much higher than those of foreign producing centers unless hand-labor-saving devices can be substituted, thus permitting a reasonable net return to the grower. A long step toward solving this problem was made in 1934 when the Division of Drug and Related Plants of the Bureau of Plant Industry with the cooperation of the Division of Farm Mechanical Equipment, Bureau of Agricultural Chemistry and Engineering, U.S.D.A.; perfected a machine known as the modified cotton stripper[5] which harvests the crop by pulling off the flowers by means of revolving rollers. Another item of importance is that the perennial pyrethrum seldom produces flowers in the first year, its maximum crop potentialities occurring generally in the third to the fifth year with possible heavy crops even in later years, providing both soil and climatic conditions are suitable.

The chief reason for growing plants without soil, for experimental purposes, is that this method makes possible a more precise control of the plant's root environment whereby the testing, the adjusting, and the replenishing of plant food nutrients in the media can be made at any time without greatly disturbing the plant. Under ordinary soil conditions this would be difficult if not entirely impossible without harmful effects. Nutritional information thus obtained might also be applicable in a soil amendment program for pyrethrum culture.

The 1937 experiments were conducted for deficiency studies, where certain so-called trace elements such as B, Cu, and Zn, were purposely withheld while in 1938 and 1939 experiments pyrethrum seedlings[6] were transplanted from seed flats into tanks containing culture solution with various groups of minor elements (Fig.

Fig. 3. Pyrethrum in crock soils.

Fig. 4. Pyrethrum in culture solution with minor elements 1938

[4] Unpublished Research Reports (1926-1927) By J. S. Yip The California Spray-Chemical Company Watsonville, California.

[5] Harvesting Pyrethrum Circular No. 851 January, 1941, U.S.D.A.

[6] All seedlings used were raised in acid-washed Ottawa sand and watered with half-strength Hoagland solution.

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4), and also into soil plots, crock soils, (Fig. 3), simultaneously, for comparison studies. The usual method for handling plants grown in water culture was employed.

As pyrethrum prefers and thrives well in an open soil, it is quite obvious that some provision should be made to replenish the depleted oxygen supply in the nutrient media as fast as it is removed by the roots for their use in the process of respiration. An easy and very inexpensive way of creating an excess supply of free oxygen in the nutrient media is to bubble air into it by means of submerging either a glass aerator with several sintered glass openings[7], or a porous carbon tube connected by means of a rubber tube to a compressed air line. In either case the air is allowed to escape into the culture media in the form of very fine bubbles, and the rate is regulated by a main valve aided by pinch clamps attached at desired intervals on the tubing which serve as fine adjustors.

Experimental results showed that pyrethrum, like many other ordinary plants, requires very small amounts of certain so-called trace elements such as B, Cu, and Zn for normal development, and if any of these are withheld deficiency symptoms are quite evident, as shown in the last three crocks in Fig. 1, in contrast to the normally developed plants in either of the crocks marked "C," which contained a complete supplementary solution.

The two outstanding results obtained when culture media is compared with soil are that the former produces flowers in the first year, requiring less than 200 days, while the latter requires two years (about 400 days) and, in addition, the total pyrethrin content (oven-dry basis) range of the culture-grown flowers is much higher, being 2.03-5.16 per cent[8] as compared with those produced by soil 0.93-1.97 per cent, although the number of flowers produced by culture is very greatly depressed, probably due to excess available nitrogen in the media.

The length of the roots of the plants grown in culture solution (Fig. 2-A) was much longer than that of those grown in soil (Fig. 2-B & C); 20 inches as compared with 7 to 8 inches. Thus far all attempts to overwinter roots without their tops by storing them in such material as wet sawdust, wet peat moss, or wet newspaper at various temperatures in cold storage for further studies have failed.

Extracts made from some of the flowers produced in culture solution tested on mosquito larvae, which had been raised under standard conditions, showed that they are toxic, and caused death at a concentration of 1:1,000,000.

While preliminary results obtained with pyrethrum grown in culture solutions were encouraging, especially with respect to its high pyrethrin content and the reduction of time required to produce flowers, considerable more experimenting is necessary in order to determine definitely whether either high pyrethrin content or increase in number of flowers per plant, or both, are related to environmental (nutritional) or genetical conditions, or to both.

[7] The openings of both the sintered glass aerators and carbon tubes get plugged from time to time. The former are easily cleaned by bubbling in a solution of commercial hydrochloric acid, while with the latter it is found best to bake the tubes in the sun with the air current on, and then immediately sandpaper the entire dry surface.

[8] The analyses of several of the batches of high pyrethrin content flowers were checked (Using the same method as the one employed by the author, the Holoday Modified Wilcoxon Mercury Reduction Method) through the courtesy of D. A. Holoday, Food and Drug Administration, U.S.D.A.; San Francisco, California, and the results found were identical with those of the author.

ROACH CONTROL TESTS

(*From Page* 115)

ment for these insects. When these materials are not available or cannot be used because of the health hazard, one of the new materials can be successfully substituted. In laboratory tests boric acid was found to give a better kill than borax and with pyrethrum marc added was a satisfactory roach powder. The marc alone killed few roaches, but did improve the performance of boric acid, dinitroanisole and sodium fluoride. A mixture of 15 parts of dinitroanisole with 85 parts pyrethrum marc or one containing 10 parts of dinitroanisole, 45 parts pyrethrum marc and 45 parts boric acid showed much promise and should be given further trial by PCO's under conditions of a heavy roach infestation. Two commercial roach powders gave good results in the laboratory, while a number of synthetic organic compounds were of little value. Results with the new chemical, DDT, were promising in the laboratory, but more research is needed before this material can be recommended.

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Xanthogen for Louse Control

At body temperatures xanthogen and salts of xanthogenic acid produce a poison prophylaxis against lice. W. Reichmuth. Z. *hyg. Zool. Schadlingsbekampf.* 35, 73-7.

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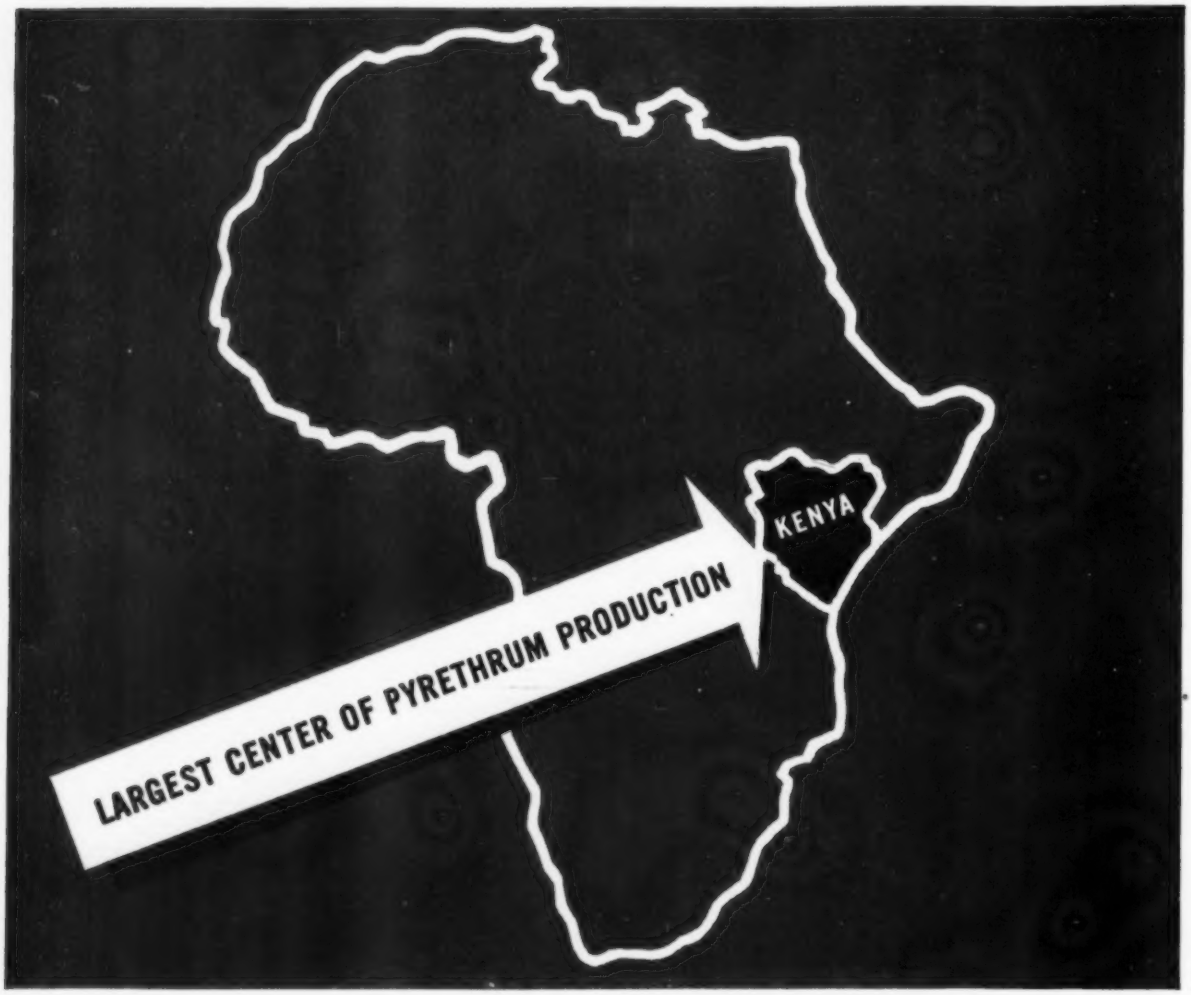

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DDT—Up To Date...

*By J. A. Jeneman**

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THE consuming public has already erroneously accepted DDT as the insecticide which will rid them of all undesirable insects. This has been brought about by the overzealous efforts of some of the popular writers to dwell and elaborate on the unusual and, probably to a greater extent, by their failure to inform the public of the tremendous difference between the objectives of the military program in contrast to those of our civilian lives in the United States. The U.S.D.A., and specifically the Bureau of Entomology and Plant Quarantine, deserve credit for the thorough and rapid manner in which they adapted DDT to the requirements of the military program. It is gratifying to know that the Bureau is now actively evaluating DDT as a civilian insecticide and will make major contributions to our knowledge.

I said before that the public has already accepted DDT and so have numerous other people who believe that DDT justifies their entering the insecticide business, either as manufacturers or resellers. This interest, from one angle, is a healthy one because it has made people insect-consicious and has stimulated the desire to do something about it. I doubt whether any NAIDM publicity program could have created such broad general interest in the products of the association. On the other hand, it also means that DDT must reach the consumer in such a way that he gets the results he has a right to expect.

The label on a consumer package, at times, is the only opportunity a manufacturer has to tell his story to the user. If he can tell this story in a complete manner, then the buyer will have the best opportunity to get the results he expects through his purchase. In this case, we should be able to tell the buyer:

1. **What Is It?**
2. **What Is It Good For?**
3. **How Is It Used?**
4. **What Precautions, If Any, Are Required?**

A number of the people who are interested in DDT have not given sufficient thought to the need for answering these four questions, and I am afraid their answers might sound something like this:

1. What Is It?—DDT.
2. What Is It Good For?—Flies, roaches, mosquitoes, bedbugs, or any and all insects.
3. How Is It Used?—Try it and find out.
4. What Precautions, If Any, Are Required?—The soldiers and civilians in Italy use it, don't they?

When these questions can be answered properly, then we are ready to sell; so let's see how far we can get. Now—

What Is It?

It is not DDT, because the public will have little or no facilities for using it as DDT. Unmodified, it is not in suitable consumer form. Unfortunately, too much attention and reference is being made in public to DDT rather than to the finished insecticide as it will reach the consumer. For example, the Army and Navy have some six products made to their specifications, each containing some DDT. In addition to these, they purchase the material as 100 per cent concentrate, to be converted in the field to insecticidal compositions for direct use there.

In thinking of the consumer, whether he be the householder, the farmer, the restaurant operators, the institution, or the pest control operator, the answer to "What Is It?" might simply be "An Insecticide," but to us it is the heart of the problem, for "What Is It Good For?" and "How Is It Used?" depend on "What Is It?".

Therefore, let us look at what we might make up as consumer articles:

Dusts

DDT might be formulated by extending with various inerts and at various concentrations. In general, one might expect that higher concentrations of DDT would either be more effective or give longer lasting results. On the other hand, higher concentrations of active ingredient generally increase costs, and also any existing toxicity hazards. Concentrations of from 1 per cent to 10 per cent DDT have been suggested, and as diluents, pyrophyllite and the grades of dusting talc are suitable.

Solutions

For all practical purposes, DDT is insoluble in water. It is, however, soluble in many common organic solvents. The extent of solubility varies greatly with the particular solvent, in figures ranging from 2 per cent for

*Address before 31st Annual Meeting, Nat'l Assn. of Insecticide and Disinfectant Mfrs., New York, Dec., 1944.

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alcohol to better than 50 per cent for cyclohexanone. Such common solvents as xylene or acetone can be used for making concentrated solutions, while the common petroleum fractions are in the 4 to 10 per cent range of solubility. A 5 per cent DDT solution in kerosene has been given considerable attention, although there is no reason to consider this formulation, either as to concentration or solvent, is the optimum for general use.

Since most solvents are not inerts, the use of a given solvent with DDT raises more problems than would be true with variations made with dusts. In choosing solvents, the permanency of the solvent, the action which the solvent might have on the materials treated, and the action of the solvent solution on humans and animals must be considered. The advantages of solutions involving DDT and a volatile solvent are that concentrations can be varied over broad ranges, they are easy to apply, the residues will be free of inerts, they give better adherence to treated surfaces, and residues will be less visible than with dust. I wish to repeat, however, that in selecting solutions, the action of the solvents, with and without DDT, must be given serious consideration.

Suspensions

Water suspensions of DDT will be used in the agricultural field for application as a spray. Such products would be wettable powders containing DDT, diluents and conditioners. They will represent a compromise both as to advantages and disadvantages between dusts and true solutions. These particular formulations may or may not be good products in the industrial insecticide field. They will, however, have to be reckoned with in setting up a merchandising program in the industrial field.

Emulsions

Like suspensions, they are a middle ground between dusts and true solutions. Such questions as stability, ease of use, compatibility of components, must be considered in evaluating DDT in an emulsion formulation. A typical product might be one part DDT, one part of emulsifier and three parts of a solvent like xylene. This product would then be 20 per cent DDT. It could be emulsified with water at point of use to any desired concentration, such as 5 per cent.

Aerosols

In general, we think of aerosols as a highly effective form of spray. For application where sprays as mists are desirable, DDT-containing aerosols should be useful. For such products, the role of DDT as it pertains to its stability, purity and reaction with other ingredients, including the propellant, must be carefully examined.

Others

A number of other possibilities will suggest themselves to you, such as pastes, combinations with baits or other insecticides.

It will, therefore, be important in deciding the question of "What Is It?" to select the candidate as a dust, a solution, an emulsion, or some other form. Of course, the numbers of such forms possible are almost infinite and the proper form for use from a commercial point of view is the one which considers the market to be secured when preparing the answers to the questions "How Is It Used?", "What Is It Good For?", etc.

At this point, it might be appropriate to mention briefly quality as it pertains to DDT. The trade today recognizes as DDT material complying with Joint Army-Navy Specification D-56 issued June 30, 1944. These specifications have been drawn by the Federal Government as a means of approving or disapproving products being manufactured currently for their consumption. Material passing such specifications can still differ materially with regard to physical and chemical properties and it should not be assumed that all DDT is alike. Another important point is the equivalency or uniformity of formulations containing DDT. Not only are there possible variations in the composition of formulations, but also in the purity of the ingredients along with such physical properties as particle size. Also, while DDT is, in itself, considered a stable article, it does not follow automatically that formulations containing it are stable, either as to storage before use or after use and during exposure to sunlight and air.

I believe this disposes fairly well of the question "What Is It?" by saying that it is not DDT as such, nor any one formulation containing DDT, but rather some product developed for a purpose to be decided on later.

Let us take a look at—

"What Is It Good For?"

A liberal number of references have appeared in the literature indicating results on insects, and almost invariably referring to laboratory tests. Insufficient DDT has been available to make enough large scale tests to confirm or disprove many of these laboratory findings. Such work is now under way in a number of locations and it is vital that such information be available before too extensive marketing of DDT occurs. DDT is frequently not spectacular in its rate of kill, but by virtue of its completeness of kill and long residual effect offers what we think of as a new tool. Will the consumer look for spectacular results? Will the public use the product in such a way as to get consistently the benefits of DDT's residual effect?

In the early days of DDT publicity, my mail was loaded with requests for DDT. Many of these problems, which the inquirer felt required DDT, should have been solvable through the use of products now commercially available. The fact that such products have not, in many cases, solved these problems is due, I presume, to lack of diligence or improper use of these materials. I am afraid that in the minds of some, simply having a package of a DDT formulation in the house or having used it once will banish all insects.

While this may sound pessimistic, it may not be so, for the residual influence of DDT even through careless application may be sufficiently beneficial to give better results than secured with our present products because of their generally shorter period of effectiveness.

Unfortunately, much of this year's experimental work has not yet been published and investigators are entitled to release their papers before

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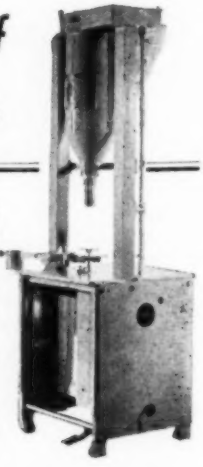

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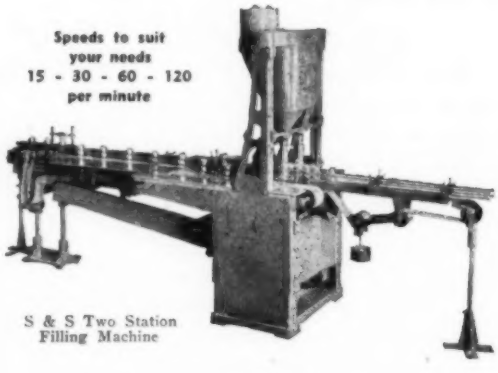

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we disclose their results in this talk. Prior to our next meeting, it should be possible to correlate these data and give a more rounded picture. The following results are presented for your interest:

We all know the story of louse powder applied to the body and the lasting protection underwear treated with DDT emulsion or solution provides. It is such results which, important from the military point of view, have led to the overenthusiastic publicity when applied to as yet unproven uses.

Bedbugs

The results of a test with a 5 per cent DDT in kerosene solution, disclosed in the literature, have been confirmed in a series of tests conducted by the NPCA Research Committee cooperating with the U.S.D.A. Bureau of Entomology. Of the first 29 tests with DDT versus prevailing methods, 89 per cent gave superior results with DDT. Because of the continued residual effects of DDT, it will be surprising if before too long even the dissenting 11 per cent will not change their minds.

Flies

For the conventional household fly spray, the recommendation is the addition of 0.2 per cent of DDT with whatever reduction in present active ingredient can be tolerated to provide knockdown, since even this small quantity of DDT will give "kill." Of greater importance in the fly control program, both for dwellings and—what is more important—in livestock barns, is the use of DDT applied on surfaces for its residual effect.

A number of tests run with various formulations, that is, suspensions, kerosene solutions or emulsions, applied to screens, walls or ceilings, have shown phenomenal results. Quantities of one quart of a 5 per cent solution for 250 square feet of surface have been considered adequate. In most cases the deposited residue has killed both house flies and stable flies coming in contact with it. We know that flies must actually come in contact with the treated surface and the quantity of DDT available for such contacts will determine the effective life of the application.

Results from these tests have, however, not always been consistent and it is not known at this time whether formulations, application (i.e., technique or quantity), kind of surface treated, temperature and humidity, or method of evaluation is at fault. If one remembers that DDT does not work instantly, the fly population at any given time is as dependent on the rate of arrival of new flies as it is on the rate of contact of the fly with DDT. In other words, if we take a dining hall and kitchen which is enclosed and not particularly close to an active breeding area, it should be possible to exterminate all flies for they would certainly come in contact with the treated surfaces during the night. Further, the rate of arrival would not be too high and, hence, good protection would be observed. In contrast, if we have an open building near a fly-breeding area, the number of flies killed might be the same as in the former case, but with the greater traffic, the percentage of flies present would be larger and, hence, appear to indicate less control. Even in this latter case, however, the treatment of enough area would have its influence.

Preliminary tests indicate that DDT suspensions, or oil solutions, sprayed on cattle reduced the horn and stable fly population even when the cattle were in pasture, for longer periods than are possible with present products. Periods of longer than one week's protection have been reported.

Mosquitoes

The statements made under "Flies" apply equally to mosquitoes.

Roaches

There is a wide difference in results reported on roaches. The same NPCA Committee mentioned under "Bedbugs" in its first report on 19 completed tests gave performance from six as superior to prevailing methods, twelve equal, and one inferior. These results are with a 10 per cent DDT dust. Differences in kind of roaches, thoroughness of treatment with present versus new materials, and benefits from repetitive treatments may alter this score considerably. In addition is the factor of other formulations such as sprays versus dusts. There is no question but some test results on roaches have been excellent with the exception that roaches are conspicuous by their presence, possibly to an embarrassing extent, in the period between treatment and death.

Again experience is needed before we can answer the question "What Is It Good For?". I could go on giving details about more insects, but since results are still inconclusive, let's put it this way—there are good prospects. Note, I said "prospects" for cattle, goat and chicken lice, dog fleas and ticks, at least as far as building infestations are concerned. Much more must be learned about fabric insects, stored grain insects, silverfish, ants, flies and ticks on animals, other flies such as the deer-, black- and horsefly, chiggers, and other mites. In contrast, there are a few completely negative tests such as on screw worms, cattle grubs, etc.

How Is It Used?

Obviously until we know what we want to use, we cannot answer the question. So far, I have not mentioned toxicity, but this question of "How It Is Used?" is influenced by toxicity hazards present through use, either in application or residue. But more on toxicity later.

The use of powders is old to the layman and so is the use of sprays. I believe you know how to gauge what the consumer will do with such products. On the other hand, how much does the public know about making suspensions, proper use and dilution of emulsions?

Further, the proper use of so-called residual effect solutions will be new to the consumer. His closest approach at present is through paint or whitewash. Proper equipment and technique will have to be developed. This is most important, the answer to which may, of course, be the expansion of the pest control operator's activities rather than treatment by the individaul consumer.

What Precautions Are Required?

Having heard so much about toxicity, it is natural that this should

(*Turn to Page* 149)

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SOAP INDUSTRY MEETING

(*From Page 38*)

to extend relief to the lowest priced seller of a particular product if he can show that he was unfortunate enough to be caught with an extremely low price at the time of the freeze, and that the continuation of this low price has affected adversely the overall profit of his business. The extent of the effect on overall profits is said to govern the scope of the relief which can be granted.

The report of the nominating committee was presented by the chairman, Charles Solly of Harley Soap Co., Philadelphia. Russell Young of Davies Young Soap Co., Dayton, Ohio, who has served the section as chairman for the past two years asked to have a successor named, and the committee selected Herbert Kranich of Kranich Soap Co., Brooklyn, formerly vice-chairman of the division. He is succeeded as vice-chairman by Clarence Weirich of C. B. Dolge Co., Westport, Conn. Andrew Federline, who is assistant manager of the association, continues as secretary of the potash division.

In taking over the duties of the chairmanship of the section, Mr. Kranich outlined a broadened program of suggested activities which will extend considerably the functions of the potash division. One of his proposals was that a census of the potash soap industry be taken to investigate the breakdown of various uses of potash soaps. Charles Solly was named as chairman of this committee.

Mr. Kranich also urged the potash soap division to consider the issuance of a series of folders which would describe the products of the industry and their uses, with a view to promoting increased sale. A motion was carried to appoint a committee to explore the uses of potash soaps, and to study the sales literature of the industry, with a view to acquainting the public with the approved methods of use of potash soaps. Melvin Fuld of Fuld Bros., Baltimore, heads this committee.

Another recommendation of the new chairman was that the division should undertake the preparation of a detailed job classification of the industry, which would be helpful in the dealings of individual firms with the National War Labor Board, War Manpower Commission, regional manpower boards, local draft boards, etc. General opinion of the group indicated that this classification should be confined to a definition of duties, with no reference to specific rates of pay. A committee headed by Russell Young of Davies-Young Soap Co., Dayton, Ohio, will work on this project.

Still another committee which the new Executive Committee will be asked to approve, will be known as the Potash Soap Technical Committee. Its purpose will be to bring together the principal technical men engaged in potash soap manufacture to discuss mutual problems. The new chairman had planned to discuss and ask for a vote on formation of this new committee at the division meeting, but the program was so crowded that there was not time to bring this proposal up before adjournment for the Soap and Glycerine Industry meeting, which convened at noon.

E. H. LITTLE REPORTS

(*From Page 39*)

were allowed to make for their use. I think everyone will agree that it was a very constructive move. It kept the government out of many very difficult situations and saved many headaches for the government, for consumers, and for distributors. I think we as an industry have done a better distribution job than could have been done in any other way.

We were on an 84 per cent allocation of fats at one time. First it was 88 per cent, then 84 per cent, then it was moved down to 80 per cent, and then up to 90 per cent. It was possible to get along with a lower allotment early in the game than it would be now because there were tremendous inventories in dealers' warehouses all over this country without which I am certain that the public would have run into a great deal of difficulty on an 80 per cent or 84 per cent allotment. The records show that a certain amount of soap is needed to maintain morale and to control the spread of disease and epidemics of one nature or another, that sickness and disease spread inversely with the per capita consumption of soap, and that with the lack of soap the death rate goes up. Studies of death rates in many countries of the world show this. Of course it is not entirely due to the consumption of soap that people remain reasonably happy and healthy, but all of those things seem to go together. Where you have a small per capita consumption of soap, your death rate, because of disease—and I suppose it gets back to the all-over hygiene situation—is much higher than where you have a greater per capita consumption of soap.

So there is in this country a definite need for an adequate amount of soap. Somebody will have to decide what that amount is if we ever get in a tight squeeze again. We presented what facts we had, and various government agencies made their own study. The quota of fats was increased, distribution of soap left to the industry, and a difficult and tight situation avoided.

That gives us the picture somewhat of what we have gone through—avoiding rationing of soap, proper distribution by the industry itself, meeting the container situation, and all of the other problems. I say again that when you consider the job that we had before us and the difficulties that arose, we can feel pretty sure that the government and this industry together did a very splendid job during 1944.

Our problem now is, what are the conditions for 1945 and how are we going to meet the problems that are bound to face us during this year? The question of fats looms up immediately, of course. In addition, no doubt, we have a difficult situation in connection with manpower. You can't make soap without a certain number of workmen in your plants. You can't distribute soap without a certain number of men working for the railroads, trucking companies, and so forth. So we have many of the same problems that we had in 1944 and perhaps some new ones for this year.

I am sure, regardless of what our problems are, that if we will continue working together as a team—the government and the industry—and if we will face the issues squarely, that we can continue to handle the whole question of soap and its distribution to the consumer in this country, plus the amount necessary for the war effort all over the world, in a satisfactory manner the same as we have during 1944 and in the other years since the war began. It is a question, it seems to me, of knowing what we are up against, industry and government, working out together a program to meet the situation, and then rolling

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up our sleeves and doing the job. I have no fear but that together we will take care of the situation in 1945.

I want to spend a few moments in talking about what the industry has done in cooperating with the government in the fat salvage campaign. This has been in effect now for approximately two and a half years. Because of this joint effort, several hundred million pounds of fat have been collected and have played a big part in the total picture. I am told that in 1944 we collected from the housewives of this country 170 million pounds of fat. The Army and Navy salvaged another 50 million to 70 million pounds of fat. That is about ten per cent of all the fats saponified by the soap industry, so you can see that it has been well worth while and has played a most important part in meeting the situation during the period of short supply.

In 1944 the soap industry spent in actual cash 1½ million dollars in publicizing the Fat Salvage Campaign. At least an additional 1½ million dollars has been put behind the campaign in advertising that is not an actual out-of-pocket sum but is part of radio programs that soap makers have on the air, together with a certain percentage of the space that is used in advertising soaps. It is very important and absolutely necessary that we keep up that sort of a program, and at our last directors' meeting in Chicago in November we decided to O.K. the one-fourth of the annual 1½ million dollars for the first quarter of this year, so that the program in operation this first quarter is, in effect, on the same basis as during 1944.

URGE FAT CONSERVATION

(*From Page 39*)

offerings, except at concessions of one kind or another. . . .

We realize the inherent threat to price stability which might arise at some future time from large Government stockpiles hanging over the market. Therefore, our policy has been to own only the minimum quantities of such particular types of oils as are required by the military for essential war purposes, and for which no satisfactory substitutes are available. We have assured your industry also that the Government has not acquired large stockpiles of your manufactured products as some had feared, and which might also at some time interfere with regular trade distribution. I could say a great deal more as to how your Government has tried to aid rather than retard business, but it is unnecessary to do so.

There are some who believe that we should not have permitted the use of raw materials outside of quotas during periods of surplus seasonal production, and that such surpluses should have been stockpiled against possible shortages. This was not always practical, even if we had wanted to do so. If our policy has been too liberal, you in industry have received the temporary benefit. If and when conditions beyond our joint control may make it necessary to curtail the volume of consumer goods below present levels, or alter any of your regular trade policies and practices, I am sure you will go along with us in a spirit of understanding and active cooperation. We are all fighting this war together. . . .

Imports of soap-making fats and oils are not expected to increase over 1944, unless the military situation in the Pacific improves radically during the first half of the year. In dealing with imports we are still handicapped also by a shortage of shipping facilities. For this reason we were unable to bring in our full allocation of fats and oils in 1944.

As various areas in Europe are liberated there is an ever-increasing call for all kinds of basic commodities. In addition to this additional pull on supplies, practically all other countries would like to purchase and use larger quantities than they were allocated in 1944.

While I cannot disclose certain figures on international movements of oils and fats, I can assure you that your Government is conscious of the desirability not only of additional tonnages of all fats, but also of certain particular types of imported oils and fats, for domestic consumption.

All imported fats and oils for the non-Axis world are controlled through allocations made by the Committee on Fats and Oils of the Combined Food Board. All exportable surpluses, wherever they exist, are scheduled and allotted proportionately to the United Nations and certain neutral countries in accordance with principles based on equity and need. The Committee has under continuous review changes in supply and requirements figures. It passes on requests for emergency allocations from all areas of the world. We are organized, as I have already stated, so that we constantly receive first-hand and comprehensive data, and we can request any facts or figures from anywhere in order to guide our decisions. This information should make it possible for us to plan programs with some degree of accuracy. It is our purpose to maintain a constant and objective appraisal of any factors which might make changes in current domestic controls desirable or possible. As soon as we are able to acquire a larger import quota, we will forthwith liberalize or remove any existing restrictions. It is only good sense to make use of such additional quantities while consumer demand can absorb increased production.

The Committee on Fats and Oils is composed of members representing the United Kingdom, France, Canada, Holland, Norway, Belgium, and the United States. As the American member, I shall continue to exert every reasonable and proper influence to provide us with a fair share of whatever is available. I am satisfied we are on a ratable basis. Of course, not all imports of lauric acid oils are going into civilian soap. Approximately 35 per cent is specifically ear-marked for use in the manufacture of various direct and indirect military items. Practically none of these oils is allotted to the edible trade.

Military and other Government requirements, including such essential industrial needs as those of the synthetic rubber program, are on the "must" list, and have a prior claim on your production. We have been assured by responsible officials that all requisitions are carefully screened before orders are placed. The minimum requirement is being stepped up as the intensive character of the war extends to more fronts, and creates calls for increased quantities of goods of various kinds. We have to accept the judgment of those in charge.

When I tell you that it is a matter of the utmost urgency that all Government requisitions be accepted promptly and shipments made in accordance with the instructions given, I do so only after being convinced that soap is a vital war necessity, and that it is required in the quantities requested. I believe that we can count on your voluntary cooperation in providing these goods, when you realize the important contribution you are being called upon to make, even though it entails a sacrifice.

Some have questioned our intentions as to the reserve stock of lard we accumulated last summer. This supply is being drawn on for both military purposes and civilian relief. Our position would have been untenable if we had not exercised the initiative and set aside this lot for relief use. I only wish it had been possible to store an even greater quantity at that time. The need for it had been foreseen.

The edible fat supply for domestic civilian use for 1945 is estimated at

(*Turn to Page 149*)

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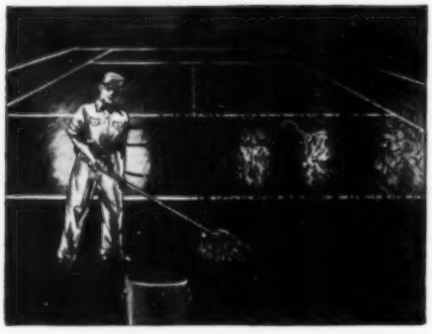

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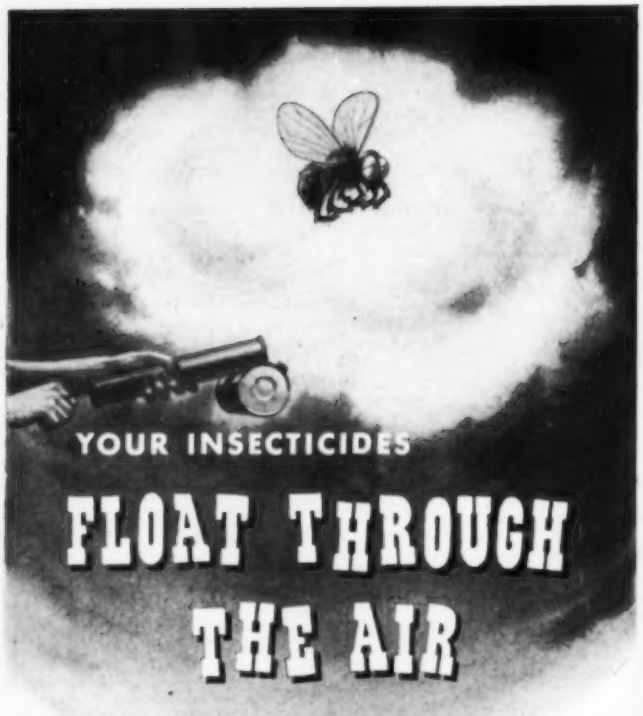

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—♦—

An insecticide, fungicide and germicide preparation contains as active constituent an *alpha*-aroyl *beta*-amino ethane, such as *alpha*-benzoyl *beta*-piperidino ethane. W. P. terHorst, to Dominion Rubber Co. Ltd. Canadian Patent No. 424,668.

FARM USE OF DISINFECTANTS

(*From Page* 111)

dairy farmers prefer to use modern repellent oil sprays that are free from objectionable odors and have high-killing power.

Rendering-plants frequently employ stock dips for spraying dead animals to reduce fly and maggot infestations.

Solutions of coal-tar disinfectants are widely used as baths for dogs to rid them of their fleas. It is also applied in and around barns and hog sheds to kill adult fleas as well as their immature stages. Occasionally farmers dip their chickens in a 1-70 solution to kill fleas and other external parasites.

Consumer Reaction to "Phenol Coefficient"

FARMERS supposedly have been educated to the importance of judging the germicidal strength of disinfectants by reference to the phenol coefficient designation on the label. In answer to the question "What percentage of your customers understand what is meant by phenol coefficient, 33 per cent replied "none"; 20 per cent declared "very few"; the others varied from "about half," "a few," "not many" to "nearly all." In those cases where a fair percentage of the farmers were credited with an understanding of the term, the dealers had explained its meaning.

Whether coal-tar disinfectants will continue to enjoy widespread use in the future remains to be seen. In many cases the newer types of disinfectants, such as those made of substituted phenols, will be adopted by virtue of their lack of odor and for other specific disinfectant or killing properties they may possess.

The survey has shown that coal-tar disinfectants are employed in many different ways by the farmer and housewife. In many cases the uses are not confirmed by scientific experiments, either in the laboratory or in the field. They are of interest merely insofar as they indicate the variety of uses to which coal-tar disinfectants are employed by the consumer.

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- Pyridine
- Xylol
- Cyclohexanol
- Methylcyclohexanol
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TRADE NEWS . . .

Thompson Sanitary 35 Years Old

Thompson Sanitary Supply Co., Lexington, Ky., celebrated the start of their 35th year in business last month. W. L. Thompson, head of the firm, formed his company when he was only 17 years old. Since then the business has developed to the point where it occupies a three-story building and serves all of central Kentucky with soaps, sanitary products and accessories of all kinds. Some products, like insecticides and sweeping compounds, are manufactured in Lexington, with others being handled on a jobbing basis.

U.S.D.A. Issues DDT Digest

The U. S. Department of Agriculture's Agricultural Research Administration has just issued a 53-page digest of the literature on DDT through April 30, 1944, by R. C. Roark and N. E. McIndoo, of the division of Insecticide Investigations of the Bureau of Entomology and Plant Quarantine. Information contained in the digest was abstracted from 174 publications.

Hubman Supply Expands

As part of an expansion program, Hubman Supply Co., manufacturer and wholesaler of janitor and building supplies, cleaning compounds and equipment, purchased, Jan. 22, a four-story building at 41 East Chestnut St., Columbus. The company, which operates throughout the middle west, has been located for a number of years at 225 North Fourth St., Columbus. Its new site will nearly double its present space, providing approximately 21,000 square feet of floor space.

Emulsol Issues Catalog

Emulsol Corp., Chicago, recently issued a 66-page catalog dealing principally with surface active agents, particularly for such uses as agricultural, household and animal pest control, cleaning, laundering, etc. In addition to information and data on surface active agents in an article entitled: "Emulsifiers, Emulsions and Emulsification," there are excerpts from the U. S. Food, Drug & Cosmetic and the U. S. Insecticide Acts.

Sanitary Supply Meeting Off

The National Sanitary Supply Assn., Milwaukee, following a poll of its directors, has announced the cancellation of its Spring convention. A meeting for sometime in October has been planned instead, according to the announcement received by members late in January.

Ideal Chemical Moves

Ideal Chemical & Supply Co., Memphis, jobbers of soap and sanitary products, recently moved to 267 Court Ave., Memphis 3.

Eggerss Continental Can Director

Hans A. Eggerss, president of Container Co., Van Wert, O., a wholly owned subsidiary of Continental Can Co., New York, was elected to the board of directors and made vice-president in charge of the paper container division of Continental Can Co., at a meeting of the board, last month.

Offer Oregon Law Copies

The new proposed Oregon Economic Poison Law, to replace the existing Oregon Insecticide and Fungicide Law, has just been received and copies are now available from the office of the National Association of Insecticide and Disinfectant Manufacturers, New York.

DDT Good Against Codling Moth

DDT may prove to be a good substitute for lead arsenate against the codling moth in western New York apple orchards if results of one season's orchard tests are borne out. This is the belief of Prof. S. W. Harman, entomologist at the Experimental Station, Geneva, N. Y., stated in a review of his findings before members of the State Horticultural Society at their annual meeting recently. Used at the rate of approximately 13 ounces in 100 gallons of water, DDT gave as good control of codling moth in a McIntosh orchard as three pounds of arsenate of lead in 100 gallons, the standard spray mixture, Prof. Harman was reported as saying. The addition of oil to the DDT spray increased its effectiveness considerably. A three per cent DDT dust gave some protection, but it was not nearly as effective as the spray. Aside from some browning of the foliage late in the fall, there was no apparent injury from any of the DDT sprays or dusts tested.

M. A. Rolland Joins General Drug

Mary A. Rolland, formerly in charge of priorities for the Aromatics and Intermediates branch of the War Production Board, Washington, D. C., recently joined the staff of the aromatics division of General Drug Co., New York. She was the administrator of allocation orders for benzaldehyde and diphenylamine with the WPB. A Fellow of the American Institute of Chemists, her experience has been in research, development and teaching.

Booklets Tell Bentonite Uses

F. E. Schundler & Co., processors of bentonite, Joliet, Ill., have recently issued two bulletins on the history, background, method of production and uses of bentonite, and the role of bentonite as a detergent. In addition to its long time use as a detergent and in soap, bentonite has also been found useful in insecticides and fungicides as a suspending, spreading and adhesive agent. In this connection, it is also used as an emulsifying agent in seed disinfectants and animal dips. Bentonite as a detergent is used in laundering overalls, shop cloths, office towels, and other heavy work, the pamphlet points out, adding other applications include its employment in cleaning and polishing compounds.

Foulke Joins Snell

Dr. D. Garner Foulke, recently chief chemist for the Garfield division of Houdaille-Hershey Corp., has just joined the staff of Foster D. Snell, Inc., Brooklyn, as director of the analytical department.

Courtesy

Does Not Cost A Dime

Folks tell us that our name is being jotted down in their book of pleasant memories by a lot of people in The Trade . . . a book that will make good reading after the war. We appreciate that and will continue to do our utmost to merit the approval of our customers during these days of stress and strain—by meeting your Soap Dispenser requirements to the very limit of our ability—by handling your inquiries with promptness and courtesy. Right now we would like to be of service — what do you need?

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Manufacturers of Soap Dispensers and Dispensing Equipment

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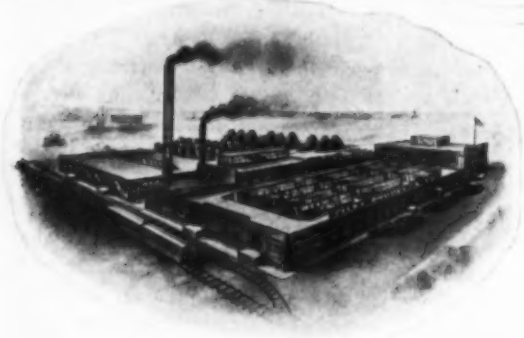

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a concentrated liquid floor soap for all fine FLOORS, PAINTED and VARNISHED SURFACES, VENETIAN BLINDS.

★ PEXPINE FLOOR SOAP (neutral)
a medium priced cleaner

★ No. 100 HEAVY DUTY FLOOR SOAP
low in price, high in service

★ NU-SHEEN RUG SHAMPOO, an excellent, highly concentrated, liquid, to be reduced before using, for cleaning Rugs, Upholstery, etc.

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Discuss DDT at Purdue Conference

A COMPLETE study of pest control work from its biological fundamentals right on through a discussion of the latest developments in DDT and its use in pest control work was the major outline of the program of the ninth annual Pest Control Operators' Conference at Purdue University, Lafayette, Inc., Jan. 15-19. The meeting, which is sponsored by Purdue University in cooperation with the National Pest Control Assn. drew a record attendance of 184. Forty pest control operators, entomologists and army officers were on the scheduled five-day program. Professor J. J. Davis, head of the Purdue department of entomology, was again in general charge of the conference and spoke on "The Principles of Pest Control." He also addressed the group, in conjunction with some of the members of the faculty, on the subject of "Identification of Pests and Their Damage."

Morning sessions of the conference were devoted to discussions of single topics such as: rat and mouse problems, cockroach problems and DDT. An innovation this year was a discussion of disinfectants at the Thursday morning, Jan. 18, session by Jack Varley of Baird & McGuire, St. Louis. The DDT discussion on Friday morning was one of the highlights of the program, with Dr. Edward M. Searls, entomologist of the Sixth Service Command, as principal speaker.

Insect problems at the fighting front were discussed at the Monday evening meeting by Major Franklin Sherman, III, under the title "The Role of the Entomologist in the War in the Pacific." Major Sherman, formerly professor of Entomology at Michigan State College, who went through the campaign of the Central Pacific area, told of the work of entomologists in carrying out preventive measures by controlling the disease carrying insects before they had time to infect our soldiers. Mosquitoes, fleas and flies, which are the carriers of malaria, yellow fever, filariasis, plague, typhus and dysentery, were said to be the principal insect problems.

At the annual dinner, Thursday evening, war bonds were presented to Dr. Edward C. Elliott, Purdue president; Prof. J. J. Davis, H. O. Deay, E. E. Montgomery, G. C. Oderkirk, G. E. Lehker, G. E. Gould and Marian Miller. Two reels of motion pictures on household insects were presented to the Purdue department of entomology, funds were added to the Pest Control Operators Student Loan Fund to total $2,000, and $285 was subscribed to the newly inaugurated Purdue P. C. O. research fund.

Annual Pest Control Operators Conference at Purdue, January 15-19 attracted record attendance of 148.

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Chemical Compounding Buys Site

Chemical Compounding Corp., recently purchased the buildings and property at 260-280 Huron St., Brooklyn, which it has occupied since 1929. The corporation manufactures disinfectants and floor finishes. Extensive alterations have been undertaken by the new owners. Eugene Kohn is president of Chemical Compounding. The property is 90 by 100 feet, has three buildings and a reinforced concrete yard on it. Through passage from two streets on which the buildings and property are located affords pick-up and delivery service at either end.

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Penick's "Pilot Farm"

The establishment of a "pilot farm" in Pennsylvania to centralize experimental work in growing botanical drugs was announced Jan. 30, by S. B. Penick & Co., New York. Previously Penick has had under cultivation large quantities of drug plants in several states. Now with cultivation and experimentation located in one place, where adequate laboratory and field equipment are concentrated, the work is expected to yield greater results than formerly. Essential oil bearing plants are scheduled to come in for careful study, according to the company announcement.

VEGETABLE OIL SOAPS

EX-CEL — 43%

A jelly Paste Soap, made from vegetable oils—Saponified with potash—dissolves quickly, cleans effectively and rinses completely. A "neutral" all purpose cleaner.

AMBER-TEX (LIGHT) — 45%

Amber-Tex oil soap is manufactured from light oils. Lathers freely and is adapted to cleaning all fine surfaces.

AMBER-TEX — 65 TO 70%

A hard, firm, base soap that is economical for cleaning all fine surfaces. Light in color. Made from whole vegetable oils.

TECH also specializes in Rug & Upholstery Shampoo, Liquid Hand Soap, Liquid Cleaners, Theatre Sprays and Liquid Deodorants.

TECH SOAP COMPANY

125 West 46th Place — Chicago 9, Illinois

CROSBY
THE MARK OF QUALITY

PALE WOOD
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They will help the soapmaker "stretch" his fats.

CROSBY NAVAL STORES, INC.
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PERFUMERS
BASIC MATERIALS

We specialize in originating products to meet unusual perfume requirements for the soap and sanitary chemical industry.

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BUSH AROMATICS, Inc.
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NPCA Distributes Booklet

"Advice To The Buglorn," the 12-page copyrighted booklet issued as a feature of the National Pest Control Association's public relations program, is being distributed quite widely. Since last October's Chicago convention of the association, when the volume was first announced, more than a quarter of a million copies have been handed out by pest control operators. Walter McCloud, Chicago operator, is author of the pocket size pamphlet, which is printed in two colors with thumb nail sketches in cartoon style. Common household pests are discussed and the message "Call a Pest Control Operator" is emphasized. Mr. McCloud originally prepared the material for use of his own company, then placed it at the disposal of the National Association for wider circulation. Space is available on the cover for imprinting name, address and advertising message of operators who distribute the story in their local communities.

USDA Victory Garden Book

The U. S. Department of Agriculture, Washington, D. C., recently issued a revised version of "A Victory Gardener's Handbook on Insects and Diseases" to aid the gardener in identifying the more common insects and related forms and the more common diseases that attack vegetable gardens in the U. S. It further provides gardeners with simple directions for the control of these pests. An attempt has been made to simplify the directions for the preparation and application of the recommended insecticides and fungicides. Changes and adjustments in some of the recommendations were made necessary due to the need to conserve such materials as rotenone and pyrethrum. The 30-page booklet bears the designation: "Miscellaneous Publication No. 525."

Glickman Utahwax Agent

Ozokerite Mining Co., Soldier's Summit, Utah, has appointed Charles S. Glickman & Associates, New York, as exclusive sales agent in the United States and Canada for its "Utahwax."

Bertrand WPB Committee Chmn.

Eugene F. Bertrand, sales manager-on-leave to the War Production Board from Owens-Illinois Glass Co., Toledo, was recently appointed chairman of the Packaging Committee, Forest Products Bureau of the WPB. He has served for the past six months as assistant to the director of the bureau. Mr. Bertrand succeeds Faustin J. Solon as chairman of the Packing Committee. Mr. Solon resigned from WPB to return to his duties as vice-president of Owens-Illinois Glass Co.

J. H. Ewing Joins Penick

S. B. Penick & Co., New York, announced early last month that James H. Ewing had joined the Penick staff as of Jan. 1, 1945. Mr. Ewing had been connected for many years in an executive capacity with the purchasing department of the Calco Chemical Division of American Cyanamid Co., Bound Brook, N. J.

Givaudan Employees Decorated

The Distinguished Flying Cross was recently presented to two employees of Givaudan-Delawanna, Inc., New York. The awards were presented to Tech. Sergeant Stephen R. Nowak for "courageous service to his combat organization" and to Staff Sergeant Peter Cousoulis for "extraordinary achievement during 35 heavy bombardment missions over Germany and German-occupied Europe." In addition, of 96 Givaudan employees in the service, two have given their lives on the French front, one is a prisoner of war in Germany, two have the Purple Heart and one man has received the Silver Star Medal and the Navy Legion of Merit.

Hill Exhibits Termite Control

Hill Termite Control Systems, Memphis, Tenn., participated in the exposition at the National Association of Home Builders convention in Chicago last month, where a graphic display of termite damage to buildings was shown. Representatives explained the company's termite control service.

Givaudan Disinfectant Booklet

A booklet containing two papers: "New Disinfectants" and "A Critique of Methods of Testing Phenol Coefficients," both of which were first presented at the December, 1943, meeting of the N.A.I.D.M., and later reprinted in *Soap and Sanitary Chemicals* and *The Givaudanian*, has just been published by Givaudan - Delawanna, Inc., New York. Both articles were written by Dr. Arthur R. Cade of the research staff of Givaudan; and the booklet is available on request. The new disinfectants are described as halogenated dihydroxydiphenyl methanes, and the two most important members of the group are known under the trade names of "Compound G-4" and "Compound G-11." In the critique of methods of testing phenol coefficients, Dr. Cade describes the shortcomings of standard methods, the reasons for the variations in results and the possibility that the random sampling error may play a role in producing these variations.

E. D. Kingsley, Niagara, Dies

Edward D. Kingsley, 84, chairman of the board of Niagara Alkali Co., New York, died last month, at his New York residence, Mayfair House. He was a native of Williamsburg, Mass., and made his home in Chappaqua, N. Y. In 1907, Mr. Kingsley organized Electro Bleaching Gas Co. for the manufacture and distribution of liquid chlorine. In 1915, he acquired control of Niagara Alkali Co., Niagara Falls, manufacturers of heavy chemicals. Later he added the Pacific Lime Co., Ltd., of Canada; Kingsley Navigation Co., Ltd., of Canada and Kingsley Navigation Co. of California. He was president of all four companies until 1941.

Chemical Mfg. & Dist. Price List

Chemical Manufacturing & Distributing Co., Easton, Pa., recently issued its 1945 price list and index of soaps, waxes, insecticides, disinfectants, fly sprays, etc. The new price list is contained in a booklet 8x10" and contains a complete index of every product manufactured by the company.

MIRAPON

A NON-CRITICAL SYNTHETIC DETERGENT
WITH
HIGH FOAMING AND WETTING PROPERTIES
[NOT SUBJECT TO SCHEDULE 44 W.P.B. ORDER M300]

POWDER — LIQUID — GEL — PASTE
REASONABLE QUANTITIES
FOR IMMEDIATE DELIVERY

WRITE, WIRE, OR PHONE FOR SAMPLES AND PRICES

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Those products which you are not equipped to manufacture yourself . . . those odd items which do not fit into your plant . . . mosquito repellent, flea powder, salves, ointments, tube filling, powder filling, etc. . . . we buy materials, containers, pack, store, and ship your specialties . . . most modern methods and equipment . . . strictly confidential . . . and our charges are low . . . consult us without obligation.

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TAR ACID OIL
for use in
DISINFECTANTS
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Unusually High in Tar Acids
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LOW TEMPERATURE COAL TAR

PITTSBURGH COAL CARBONIZATION CO.
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Producers and Refiners of Coal Tar and Its Products.

ROTENONE goes to WAR!

Recognizing its strategic value in the control of certain insects and pests, the use of Rotenone has been restricted to the needs of the Armed Forces, the protection of a limited number of vital agricultural crops, and the control of warble fly on cattle.

Many peace-time users of Rotenone for other purposes have had to readjust their plans to get along without Rotenone, and have done this willingly, appreciating that Rotenone has an important job to do in the winning of the war.

Those who need Rotenone for the specific purposes for which it is now reserved will be glad to know that we have still available supplies of **ROTENONE** and **ROTENONE RESINS** and from time to time expect to have **ROTENONE POWDERS.**

DERRIS, INC.

Specialists In Rotenone Roots and Rotenone Products
79 WALL STREET NEW YORK 5, N. Y.

A joint celebration: its eighth anniversary and annual sales meeting, were the occasion for a dinner of Zep Manufacturing Co., Atlanta disinfectant and sanitary supply firm, employees and a number of suppliers at the Mayfair Club, Atlanta, Dec. 19, from which the scene above originated. The Zep organization is headed by its president, Mandel Zaban. His son Erwin is in charge of sales and purchases.

Cornelius Chicago Office

Cornelius Products Company, New York importers, refiners and manufacturers of waxes, announce the recent opening of a sales office for the midwestern territory at 14 East Jackson Blvd., Chicago. Stocks of their complete line which includes carnauba, candelilla, ouricury, beeswax, paraffin, ceresine, ozokerite and microcrystalline waxes will be carried in Chicago to service the middle western trade. E. Alt will be in charge.

Press Sees Owens-Illinois Films

A press reception, the highlight of which was the showing of three company films, was held at the Roosevelt Hotel, New York, Jan. 22, by Owens-Illinois Glass Co., Toledo. A food packaging film, a technical film showing heat-treated glass and an indoctrination film for new employees were shown.

Wilco Announces Plastic Sprayer

A new plastic sprayer for glass cleaners that is competitive in price with pre-war metal sprayers, has just been announced by the manufacturer, Wilco Co., of Los Angeles. Features of the new sprayer include: light weight, being plastic will not rust nor corrode, and availability with colored metal caps. The sprayers are made to fit all sized containers with various sized caps.

Former Prentiss Man in France

Staff Sergeant Warren R. Ross, of the U. S. Army Air Corps, formerly traffic manager of R. J. Prentiss, New York, is now a "Norden" bombsight maintenance man with the Ninth Air Force Unit in France. Sgt. Ross, whose home is in Jersey City, N. J., left Prentiss in Aug., 1942, to join the Army Air Corps.

Move R&H New York Office

The New York office of Rohm & Haas Co., Philadelphia, has been moved to new and larger quarters at 11 W. 42nd St. The company's New York office was formerly located at 551 Fifth Ave.

Temporary Shifts at Monsanto

Pending the return to duty of Fred C. Renner, who is now convalescing in Deaconess Hospital, St. Louis, Robinson Ord will serve as acting general sales manager of the organic chemicals division of Monsanto Chemical Co., a company announcement states. Mr. Renner will not be back at work for two or three months, it is believed. Meanwhile, A. T. Loeffler, branch manager in New York, is to be assigned to St. Louis, with the temporary title of assistant general manager of sales. A. P. Kroeger, St. Louis, manager of intermediate sales went to New York, Jan. 22, as acting assistant branch manager.

Sees More Metal Cans in '45

A gradual return to metal can packaging of many foods and other commonly used products which have been packed in substitute containers or not packed at all since wartime metal restrictions became necessary, was predicted last month by D. W. Figgis, president of American Can Co., New York. Among the first to return will be dentifrices, and in addition a number of food products, waxes and cleaners, in Mr. Figgis' opinion. The coming year, he said, will see more containers of electrolytic plate, and combinations of electrolytic plate with blackplate treated with new synthetic coatings and sealed with new synthetic compounds instead of natural rubber. The result will be a greater proportion of containers for civilian use than would be possible were it necessary to use the quantities of tin required in container manufacture before the war.

James Opens Consultant Service

Dr. L. H. James, formerly professor of bacteriology and head of the department, at the University of Maryland, College Park, has just announced the establishment of a consulting laboratory service in industrial microbiology at 189 W. Madison St., Chicago. In addition to specializing in bacteria studies, Dr. James will do work in sanitation, disinfectants and antiseptics. A graduate of Iowa State College, where he received his B.Sc., Dr. James did post graduate work at Yale University, and received his Ph.D. there in 1927. His early work was at the Bureau of Chemistry (now the Food and Drug Administration). In 1937 he joined the University of Maryland, and lately has been directing investigation of war-time problems in industrial microbiology for the Office of Scientific Research and Development.

"Amuno" FTC Charges Denied

Merck & Co., Rahway, N. J., and its subsidiary, Amuno, Inc., moth repellent manufacturer, have denied a recent Federal Trade Commission complaint that the effectiveness of the moth repellent, "Amuno," was falsely represented in statements concerning the product.

REPLACEMENTS

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ESSENTIAL OILS

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SOAP PERFUMES

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FACTORIES

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MACKENZIE DETERGENTS

METASIL (sodium metasilicate) for Laundries, metal cleaning and compounding.

METAPLUS — for metal and textile cleaning. Will replace T.S.P. to advantage in compounds.

DRIVEWAY CLEANER — for driveways, runways, garage and factory floors, grease pits, etc.

DISH WASHING COMPOUND — for dish washing machines and all spray washing machines.

CONCENTRATED SOAP POWDER — a concentrated soap powder for cold or hot water.

VAPOR CLEANER — for pressure type steam cleaning machines.

Our line of Basic Cleaning Chemicals and Compounds is priced for Profitable Repeat Business

TERRITORIES OPEN FOR JOBBERS

MACKENZIE LABORATORIES, Inc.

Front and Yarnall Streets, Chester, Pa.

Real Profit

IN THE FAST SELLING WIZO LINE

★ **WIZO DEODORIZING BLOCKS**

and

★ **WIZO DEODORIZING CRYSTALS**

★ **WIZO MOTH PRODUCTS**
Vaporizers — Crystals — Cakes

★ **WIZO RAT PREPARATIONS**
Wizo Rat Glue Boards — Wizo Rat Paste
Wizo Mice Destroyer

Write for further details and prices

ELKAY PRODUCTS CO.

323-27 W. 16th Street New York, N. Y.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters

799 Greenwich St. New York City 14

Cable Address: "Pylamco"

URGE FAT CONSERVATION

(*Continued from Page* 131)

about three pounds per capita less than the consumption level in 1944 and nearly seven pounds less than our 1935-39 average. On the other hand, our per capita domestic civilian fat consumption for soap in 1944 has been estimated at 2.2 pounds greater than in the year 1938, and 1.2 pounds more than during 1939.

The War Food Administration will continue to encourage maximum production of basic commodities in 1945. No other policy could be justified. It is conceivable that at some later date, on some particular items, surpluses may accumulate. However, we see no prospect of a surplus from the production of fats and oils in 1945.

Without any desire to trespass on the prerogatives of your individual management policies, I would like to make some suggestions for your consideration:

1. Curtail sales promotion activities of all kinds (I continue to hear of stimulated consumer buying at the retail level).

2. Make your supply of fats go as far as possible through conservation practices of all kinds, including perhaps the reduction in production of some types of finished products.

3. Check distribution carefully, as you have already demonstrated you can do, so some stocks will be available to all areas. You have been very helpful in supplying distressed areas on call.

4. Stress to the utmost soap conservation in the home and factory in all of your advertising, and by any other means.

5. Step up your fat salvage campaign by every practical method.

At this stage of the war we cannot disregard the impact of growing world demand on the current supply. Nor can we lose sight of the essential obligation, in which this country must participate, to supply consumer goods to liberated areas. A provisional Government which cannot supply its people with certain necessities, such as something to eat and something to do, cannot remain in power long. . . .

Even if the Pacific areas are opened in the latter part of 1945, and it would be a bold venture to predicate any policy action on such a supposition at this time, there is no likelihood that such additional supply of fats will be sufficient to satisfy all minimum world requirements even as early as the second half of 1946. This is only a personal opinion, but all of our information leads to such a conclusion. . . .

Some of the problems . . . demand the closest sort of sympathetic cooperation between your industry and various Government agencies. We expect to confer with your Industry Advisory Committee frequently.

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Discuss Surface Active Agents

A two-day conference on surface active agents was held Jan. 26 and 27, by the section of physics and chemistry of the New York Academy of Sciences at the American Museum of Natural History, New York. M. L. Anson, of Continental Foods, Inc., Hoboken, N. J., was chairman of the conference. Participating in the morning and afternoon sessions, Jan. 26, were: A. W. Ralston, Armour Laboratories, Chicago, who presented a paper on: "The Structure and Properties of Solutions of Colloidal Electrolytes"; Earl K. Fischer and David M. Gans, of the Research Laboratories of Interchemical Corp., New York, who presented a paper entitled: "Surface Active Agents at Interfaces"; Donald Price, formerly of Interchemical Corp., reported on "Certain Aspects of the Chemistry of Surface Active Agents," and Leo Shedlovsky, of Colgate-Palmolive-Peet Co., Jersey City, N. J., addressed the group on "Properties Involving Surface Activity of Solutions of Parraffin Chain Salts." On Jan. 27, the following papers were read: "Surface Active Agents in Biology and Medicine," by E. I. Valko, Onyx Oil & Chemical Co., Jersey City, N. J.; "The Nature of the Bacteriacidal Action of Surface Active Agents," by Rollin D. Hotchkiss, Rockefeller Institute for Medical Research, New York; "Surface Active Agents in Industry," by R. R. Ackley, Mellon Institute, Pittsburgh and "Surface Active Agents in Ore Flotation," by M. D. Hassialis, School of Mines, Columbia University, New York.

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Remus Forms Own Company

Edward Remus, formerly president and treasurer of Standard Synthetics, Inc., New York, has formed his own essential oil and aromatic chemical company, Edward Remus & Co., with the main office at 11 W. 42nd St., New York, it was announced early in January.

DDT-UP TO DATE

(*Continued from Page* 127)

be the first precaution considered. I would like to say that everyone who sells a product has a responsibility. Regardless of what the toxicologists may say about DDT, it is your responsibility to see that you and he are speaking about the same materials. By that, I mean formulations and not in general terms such as kind of diluent or solvent, or per cent of DDT, but all three together. We must keep in mind method of use, both as it pertains to the man who uses it and what eventually happens to the DDT.

One formulation will demonstrate my point. In order to save freight and packages, the Services procure a 25 per cent DDT solution in xylene with an emulsifier. This is diluted at the point of use with water to, say, 5 per cent. Suppose you were selling such an item to a consumer who knew nothing about xylene? Wouldn't xylene call for precautions, even in the absence of DDT? It is possible, of course, that these precautions would have to be such that you would hesitate to sell that formulation.

Besides toxicity to humans, the agricultural entomologist has to consider the possible harmful effect of DDT on beneficial insects. This is nothing for the manufacturer of household insecticides to be concerned about, but the possible effect of DDT on pets —dogs, cats, birds and goldfish—cannot be ignored.

I would like to summarize my points now as follows:

DDT formulations, which may be of many compositions and strengths, must be tried and proven to establish proper claims. The consumer is looking for DDT and we must see that he has every opportunity to give the product a fair trial. We should strive, therefore, to answer these four questions at the earliest date:

What Is It We Expect To Sell?

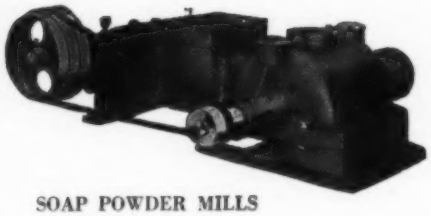
What Will It Do?

How Do You Use It?

What Precautions, If Any, Are Required?

Special Offerings of **SOAP MACHINERY** *Completely Rebuilt!*

Newman's BRAND NEW Steel Steam Jacketed SOAP CRUTCHERS Sizes 1,000 to 10,000 lbs.



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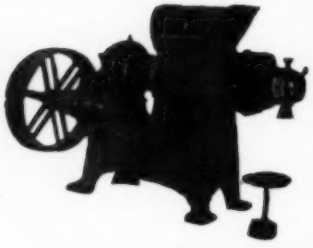

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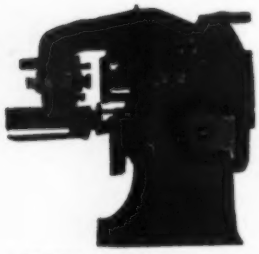
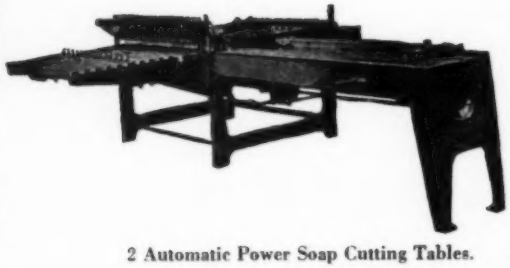


4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



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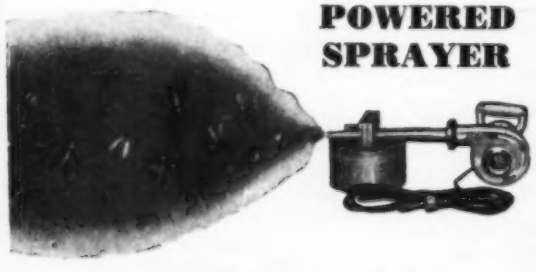

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WANTED: One 800 or 1,000 gal. steam jacketed kettle with heavy-duty agitator by eastern manufacturer. Offer for sale 25 horse power gas-fired Ofeldt boiler in good condition. Address Box No. 891, c/o *Soap & Sanitary Chemicals.*

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Dixanthogen, $EtOCS_2)_2$, melting at 28° C., soluble in alcohol and insoluble in water, is termed Preparation K. In preliminary tests it was shown to be moderately toxic to lice, *Pediculus humanus* L. Fabric treated with the substance gave complete control of lice, and little evidence of skin irritation was observed. J. I. Soboleva. *Med. Parasitol. Parasitic Diseases* (*U. S. S. R.*) 10, 576-80; through Chem. Abs.

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Gloss materials for the ordinary oil-in-water emulsions are I. G. waxes, crude montan wax and German ceresin, a by-product of the Fischer-Tropsch synthesis. The latter contains a mixture of substances ranging from oils to high-melting wax, having a dropping point of approximately 113°. K. S. Nitsche. *Fette und Seifen* 50, 115-17; through Chem. Abs.

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SUPPLIES of the 1944 Official Test Insecticide for evaluating insect sprays by the Official Peet-Grady Method are available from the office of this Association. The 1944 O.T.I. is priced at $5.00 per dozen six-ounce bottles, plus shipping costs, to members of this Association. To others, there is an additional service charge of $1.00 per dozen. Single bottles are $1.00 each. Check with order is required.

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"Ah doan care if yo grandmammy did use 'em! Who eber heard ob lu-lu nuts?"

Consumer Acceptance...

UNKNOWN or little known brands or products generally suffer from lack of ready consumer acceptance. Regular advertising can establish and broaden product recognition, and help to increase consumer acceptance. This is true whether the product be cigarettes, chewing gum or caustic soda. It is the strongest justification of continued advertising when your current position is sold up,—an invaluable asset in future sales competition.

To establish, broaden or to retain consumer acceptance for your products in the field of soaps, detergents, insecticides, disinfectants, and allied chemical specialties, we suggest regular advertising in the pages of

SOAP *and Sanitary Chemicals*
254 WEST 31st STREET NEW YORK 1

Member Audit Bureau of Circulations

Tale Ends

INSECTS, particularly common flies, have been indicted again as disease carriers, this time by U. S. Army doctors as carriers of jaundice which has been causing increased trouble in the army during the past year. The cause of jaundice has puzzled medical men for years. It has now been labeled as a filth disease spread by insects.

* * *

Surprise . . . liquid soap dispensers at the Lotos Club, New York, are still giving forth with a free-lathering coconut oil soap of at least fifteen per cent soap content. Quite surprising in view of the watery concoctions which are being found in most washroom dispensers these days!

* * *

Dimethyl phthalate is being used by GI Joe not only as an insect repellant; but finds wide use as a hair "slickum" drying without residual traces common to most forms of hair goo, says Monsanto Chemical who are producers of dimethyl phthalate.

* * *

Soap is not being stolen as frequently from washrooms in and about the British Isles, says a recent news item, meaning that the previously tight supply in the early days of rationing has eased somewhat. Or possibly, according to another interpretation, the quality is so poor that even petty thieves don't want it.

* * *

A stack of government orders and regulations a foot high—this is what the average soaper has accumulated in his WPB, OPA and other files on how to run his business during a war. And he is supposed to understand thoroughly the text of this pile of printed matter—which he is frank to admit he does not!

* * *

To answer a question which has been asked a hundred times in and about the soap industry, Robert G. Deupree in charge of soaps, drugs and cosmetics of OPA is no relation to Richard R. Deupree, president of P. & G.